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Applying Policy Theories to Charter School Legislation in New York: Rational Actor Model, Stage Heuristics, and Multiple Streams

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Abstract

With renewed calls for charter schools by Donald Trump's new Secretary of Education, Betsy DeVos, a review of dominant policy theories and their usefulness in analysing policy decision making once again becomes relevant. This paper evaluates the policy case, of the adoption of Charter School Legislation in New York in the late 1990s, making use of Allison and Zelikow's (1999) example of evaluation of a policy case through multiple lenses. Through the meso-, micro- and macro-level perspectives of the Rational Actor Model, Stage Heuristics, and Kingdon's Multiple Streams policy theories, we may be able to discern whether they accomplish their intended goal: To provide a perspective of the policy making process. Once the theories are described, they are each applied to Charter School Legislation of New York in 1998. Working through each lens, this paper describes the policy process, potential actors, and influencers with support of historical data, and draws conclusions about the usefulness of each theory for education policy. Ultimately, lack of transparency in the policy process make outside analysis assumption-laden and more subjective than an objective science. This paper calls for a more transparency at the decision-making level, and integration of more complex lenses into the policy sciences which may better inform education policy students and experts in the field.

Keywords: *Charter Schools, Policy Analysis, Decision Making, Policy Formation, Rational Actor Model, Kingdon Multiple Streams, Stage Heuristics.*

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Introduction

Public policy is often used as a catch-all phrase that describes a multitude of activities government institutions concern themselves with; analysis of existing policies and process of creating new policies, the stances bureaucrats take, and more are grouped together as the discipline of public policy (Howlett et al., 2009). The policy science discipline is inundated with policy process theories, which aim to explain the process of policymaking from a micro or a macro level, however, the discipline struggles to break free from its main paradigm: The Rational Actor Model (RAM).

Critics of this paradigm argue for the acceptance of a framework that incorporates a more nuanced understanding of human behaviour and decision making, one that moves towards a model that acknowledges the role government, institutions, and other influential actors play in policymaking, and past an oversimplification of human decision making (Simon, 1986; Sabatier, 2007; Kingdon, 2003). Supports of the paradigm, however, claim no other model provides the predictive and explanatory power of RAM, and therefore it should stay (deLeon, 1999; Buchanan & Tullock, 1990).

Breaking free from the current paradigm and dominant policy theories is important for education policy research for several reasons. A primary reason is the influence dominant theories have on discourses and new theory building. Another main reason is, it ends up being what we teach. While more nuanced theories exist, especially interdisciplinary theories that incorporate psychology, politics, educational experience, RAM and Streams and Stage Heuristics theories continue to dominate the policy sciences as definitive theories to explain public decision making. Because of this, any discussion about public policy creation would be incomplete without discussion these dominant theories. While it is beyond the scope of this paper to argue for, or against these limitations, it is my hope that the policy sciences literature continues the multi-lens approach, pioneered by Allison and Zelikow (1999) so that we can continue to build a reference of theories that are effective at explaining different policy environments and decision-making strategies going forward.

On top of evaluating the effectiveness of policy theories at predicting and explaining policy decision-making behaviours, this exercise in evaluating a policy case through the dominant lenses is especially important in 2018 as a single party controls the American legislature and executive branches, who's representatives exhibit neoliberal education philosophies which align with the philosophical tenets of the dominant policy theories. As politicians and government officials renew calls for school choice, voucher schemes, and charter schools, based on decentralization and choice discourses, policy analysts' arguments for or against specific problem/solution couplings need to be based on the same ideologies (i.e., RAM).

The following sections of this paper applies RAM, Stage Heuristics, and Multiple Streams theories as three distinct policy lenses to the passage of Charter School Legislation in New York in

1998. By applying the current paradigm against two other dominant theories of policy analysis, we may be able to ascertain whether RAM offers more a predictive and explanatory lens than the other theories as its supporters claim. It is my hypothesis that RAM will produce a convincing argument for why the Charter School Legislation passed, but lack the depth and clarity offered by the newer competing theories. In the following section the three theories will be detailed. After that evaluation of dominant theories, they will be applied to the policy case. The last section will describe impact on education research for the success or failure of these dominant theories to explain the policy process and ways forward.

Methodology

This paper details the outcome of a literature review and a content analysis. The literature review which was conducted provided information to analyse three separate theories of public policy (Rational Actor Model, Stage Heuristics, and Multiple Streams). Additionally, a content analysis was completed on secondary data sources identified as important in the literature review and interviewing public officials who were familiar with the passage of legislation. The data sources were then collected through an internet search including the terms in various configurations: "New York Charter School Legislation 1998". Historical data sources collected were then analysed to determine events that took place, and each theory lens was then applied in the Content Analysis: Theories Applied section.

The three theories were chosen because they are dominant theories taught at undergraduate, graduate and post-graduate level policy science courses and align with the neoliberal logic of the school choice rhetoric. While I believe that other policy theories may be more useful at providing a meaningful lens of charter school legislation adoption, and justification for decision making by then Governor Pataki, it is a limitation of any paper which tries to achieve comprehensive perspective through inclusivity and not become reductive. Therefore, this limitation was overcome by taking theories representing at the meso-, micro- and macro-levels of policy creation, and ones that were influenced by politics and economics, which charter school ideology heavily relies.

Literature Review: Policy Analysis Theories

This section details and critiques, the Rational Actor Model (RAM), Stage Heuristic, and Multiple Streams policy analysis theories. This comparison illustrates the ways in which RAM is touted as a useful tool for explaining decision-making in public policy, while also exemplifying its failures in comparison to other theories.

Rational Actor Model

Since its inception as a discipline, public policy has been deeply influenced by both political and economic tenets with none more pervasive than the theory of "rationality" (Howlett et al., 2009).

Rationality, in economics, refers to the perception of humans as "homo economicus", one who seeks to maximize his or her utility by making self-satisfycing choices in an objective and systematic way. Unlike the objective rationality in philosophy and psychology, which is understood as the ability to apply reason and logic, economic rationality is a procedural rationality; one acts as an objective calculator, systematically evaluating choices to select the best course of action for reaching one's intended outcome (Habermas, 1984; Mintz & DeRouen, 2012).

Public policy's rationality is conceptualized in the RAM, also referred to as comprehensive rational choice theory or applied public choice theory, which is most often described as a decision-making theory (see Anderson 2011; Howlett et al. 2009, 2013; Peters, 2015). In RAM, Stone (2012) argues actors aim to "choose a course of action in order to attain a desired end" (p. 235). Or, as Howlett et al. (2009) suggest, RAM exemplifies a search for the optimal, efficient, or best-choice solutions to complex problems through scientific means, "The rational model is 'rational' in the sense that it prescribes procedures for decision-making that will lead every time to the choice of the most efficient means of achieving policy goals" (p. 144).

The theory assumes a unitary actor, with perfect information, who is systematic in a self-satisfycing, or utility maximizing, way and whom constantly seeks alternatives to meet their personal preferences (Allison & Zelikow, 1999; Hausman & McPherson, 1996; Howlett et al., 2009). This actor does not incur transaction costs, and by weighting all potential costs and benefits, they are able to maximize their transitive and complete preferences (Hausman & McPherson, 1996).

Supporters of this positivist perspective, predominantly public choice theorists, claim that RAM is useful because it provides us insight into how actors probably behave: "we would understand better what it is happening if we assumed that political actors are (sic) self-interested" (Mashaw, 1989, p. 130). Through RAM's assumptions we are afforded a baseline on human behaviour even for the most complex policy problems (Allison & Zelikow, 1999; Anderson, 2011). That predictive and explanatory power cannot be undersold, supporters argue (deLeon, 1999; Buchanan & Tullock, 1990). While actors choose a course of action that they believe will meet their goals, Stone (2012) argues RAM's analysis of goal setting and alternatives are often predetermined. Most analyses, therefore, focus on the evaluation of consequences via decision, cost, and/or risk benefit analysis, to ultimately select the cost-effective course of action.

In government decision making, RAM is applied in the same way: the state is imagined as a unitary actor using a systematic evaluation of costs and risks whereby it identifies and selects the correct alternative to reach its intended goal (Allison and Zelikow, 1999; Stone, 2012). It is mostly assumed that in government decision policy makers evaluate the "overall welfare of the entity in

question" (Stone, 2012, p. 234), and settle on an aggregated individual preference figure for their constituencies, rather than their own.

The most common critiques of RAM are: it poorly reflects the actual policymaking process (Forester, 1984; Sabatier, 2007; Lindblom, 1959); it does not include group, political or institutional influences in the policy process (Kingdon, 2003; Stone, 2012); and it does not acknowledge any constraints on the individual decision maker (time, financial, information, human capacity, or otherwise) (Simon, 1986). Another criticism is the improbability of government's ability to aggregate individual preferences, but that is a discussion beyond the scope of this paper (Arrow, 1950).

As a response and critique to RAM Charles Lindblom developed the theory of Incrementalism. This theory argues that public administrators propose incremental or gradual policy changes, rarely veering from the status quo, all in consideration of conflicting political interests, where they "muddle through" rather than complete a scientific rational systematized process (Lindblom, 1959, p. 88; Baybrook & Lindblom, 1963).

Counter to the unitary rational actor in RAM, Herbert Simon (1986) argued that people make decisions within a specific context, or frame of reference, and they are bound by their cognitive ability. While evaluating things rationally is a normal endeavour, he argued, the assumption that anyone can evaluate all alternatives and consequences is contrary to evidence in psychology and cognitive science (Simon, 1986). This is aligned with what Lindblom calls, "superhuman comprehensiveness" (1959, p. 88) and human's inability to process information in such a computer-like manner.

Simon's critique is supported by Elinor Ostrom's (2000, 2002) work in game theory where she has shown through empirical research that human decision making is much more complex and nuanced than RAM allows; people, she proves, act collectively daily. Based on Simon and other's arguments for a limited form of rationality, most contemporary authors accept that individuals act within a bounded rationality particularly when applying RAM to a policy issue (Simon, 1986; Forrester, 1984; Ostrom, 2000, 2002). However, this cognitive limitation has not been formally added to the Rational Actor Model to date.

As previously stated, supporters of RAM do not contend that the model is without flaws. The supporters argue that no better model exists which explains or predicts policy making, as well as provides a simplified framework for how policymaking ought to be completed (deLeon, 1999; Howlett et al., 2009; Buchanan & Tullock, 1990).

In sum, RAM depicts a unitary actor systematically evaluating all feasible alternative courses of actions and choosing the one that offers maximum utility. This is true of both individual and

government decision makers (who aggregate individual decisions to determine a public preference which they seek to satisfy). While the model touches on other processes that a rational actor would complete to make their decision, it does not rise above well-established limitations (i.e. bounded rationality) and lacks both depth and a structure with which to evaluate all activities in the policy process. Despite these weaknesses, the RAM of human decision making remain paradigmatic and problematic.

Stage Heuristic

In 1951 Harold Lasswell set forth the Policy Cycle model, which is a tool that describes the policymaking process undertaken by public administrators (Sabatier, 2007). Moving past the "input-output" micro-analysis approach, Lasswell proposed a meso-system approach that formalized the steps of the entire policy process into distinct and linear stages to give guidance on best-approach to policymaking for decision makers (deLeon, 1999; Howlett et al., 2009). Over several decades Lasswell's Policy Cycle model evolved from a 7-step to a 5-step process and has since been referred to as the policy process model, the stages theory, or Stage Heuristics (for a discussion on its adaptations see deLeon, 1999; Anderson, 2011; Brewer & DeLeon, 1983; Lasswell, 1956; Brewer, 1974; Sabatier, 2007). For uniformity and clarity, I will use the latter term for the remainder of this paper to represent a 5-step approach as a synthesis of the stages approach (Benoit, 2013; Howlett et al., 2009).

In comparison to RAM, where a unitary actor completes all steps in the policymaking process, Stage Heuristics allows for a multitude of actors (with some exceptions) to influence, decide and implement various stages of the policy process. These actors make up a policy universe, and the grouping of actors allowed to influence each stage are described by Howlett et al. (2009) as the "policy subsystem" (p. 12). One, or several actors, work towards accomplishing the following five stages of the policy process: agenda setting, policy formulation, decision-making, policy implementation, and policy evaluation (Anderson, 2011).

On top of being a best-approach guide for policymakers at every level of government, Lasswell's delineation of policymaking into cyclical stages, allowed the categorization of actors, actions, and influences into which benefited policy analysists (Howlett et al., 2009; Fowler and Siegel, 2002). While more formally structured, the Stage Heuristics allowed for flexibility and a non-linearity of the policy stages. Irrespective of the formability of the stages, Howlett et al. (2013) suggest that the importance of the stages cyclical nature was perennial, "the notion of a policy process composed of a cyclical series of 'stages', is probably the most enduring one in the policy sciences" (2013, p. 2).

The first stage, agenda setting, is where the policy maker identifies a problem or issue in need of an immediate action or recourse, which then is added to the agenda, "the agenda-setting process

narrows this set of conceivable subjects to the set that actually becomes the focus of attention" (Kingdon, 2003, p. 3-4). Those which do not make the initial agenda will have to wait until the next policy cycle to be solved.

The agenda setting stage is followed by the policy formulation stage where policy alternatives are identified. Howlett, et al. (2009) describe this stage as the place where "means are proposed to resolve perceived societal needs" (p. 110). While this may sound strikingly like RAM, Stone (2012) argues the main difference is formalization and predetermination. In RAM, agenda setting, and policy formulation are both given as predetermined to the analysist, who skips past these stages and goes right on to consequence evaluation (Peters, 2015). It is in the Stage Heuristics, as Benoit (2015) suggests, that additional actors and influencers gain voice, "(actors) strive, through the use of advocacy strategies, to gain priority for one specific interpretation of both the problem and its solution" (p. 2).

The third stage is the decision-making stage where alternative solutions are selected based on their ability to maximize the decision makers' utility. Decisions can be positive, negative, or non-decision but all three require a choice to be made, which Stage Heuristics accepts is inherently a normative process (Howlett et al., 2009). In this decision-making stage, rationality, incrementalism, and other irrational decision theories compete (see Anderson, 2011; Howlett et al., 2009; Stone, 2012). When the decision is made using RAM, a unitary actor has completed some form of analysis and determined the optimal outcome; in incremental decision-making theory, this process could be limited, partisan, and lacking any standard procedures. Whichever decision theory an actor ascribes, will drastically change their analysis patterns and policymaking steps.

After a policy alternative is selected in the decision-making stage, the policy initiative is taken forward and implemented in what is described as the policy implementation stage (Howlett et al., 2009). Finally, post-implementation, the policy will be reviewed, and feedback will be provided to the policymakers via the policy evaluation stage. These last two stages are two steps further than the process described in RAM, which suggests that Stage Heuristics may provide a fuller picture of the policy process than the Rational Actor Model.

While it is generally accepted that Stage Heuristics is a cyclical cycle, it is often presented as a linear process. The linearity of this theory is its primary critique, particularly in relation to the agenda setting and policy formulation stages, where rarely problems and solutions (or policy alternatives) are identified in a linear fashion. In fact, policy makers frequently show instrumental preferences or favour tractable alternatives which come with buy-in from interest groups and hold onto these solutions until problems arise to which they can be attached (ibid). Pressman and Wildavsky (1973) criticize this process model for being a top-down approach where different actors (with different goals

and influences) create, decide, and implement policy; this requires us to question if the same policy is being implemented that was selected in the previous stage.

Lipsky's (1980) critique of the stages approach, particularly against the representation of the implementation stage, builds on Pressman and Wildavsky's point. Lipsky argued that policies are created bottom-up, as they are rolled out by street-level bureaucrats (i.e., teachers, law enforcement officers, and government workers) who are often too disconnected to the other stages of the policy process to implement policies with fidelity and rely on their own tools and objectives to implement policy. In other words, public policy making is rarely identified, assessed, created, and implemented seamlessly as a singular policy alternative as the Stage Heuristic model suggests (Benoit, 2013).

In sum, the Stage Heuristic theory improves upon RAM's weaknesses by providing a formalized framework for the policy process, one that simplifies the complicated policy process and presents itself as a guideline for policymakers. However, for it to be applied practically, we must allow for actors to move non-sequentially through (sometimes at the same time, or even outright skip) stages of the policy cycle. Additionally, analysts must consider how conflicting practicalities of the final implementation and evaluation stages fit into the policy process (Howlett et al., 2009; Benoit, 2013; Peters, 2015).

Kingdon's Multiple Streams

John Kingdon's model of the Multiple Streams was developed as a response to positivist theories like RAM and Stage Heuristics. Kingdon (2003) argues that, through a streams lens, public policy making be a fluid process where several actors partake in defining and sense-making of public problems and potential solutions with the goal of setting a public agenda. This contrasts with RAM and Stage Heuristics where policy making happens in a vacuum, through a linear rational process, completed by a single (or a policy universe of) rational actor(s).

The Multiple Streams theory, a macro-analysis or systems theory, moves away from a unitary rational actor towards a multitude of actors, activities, institutions, and influences which all affect public policymaking. To Kingdon, "the federal government is seen as an organized anarchy" where a multitude of actors, influences, institutional arrangements all effect how policies come about, and to describe it otherwise would be too rigid (2003, p. 87).

Kingdon describes the agenda setting stage of the policy process as the confluence of three streams of influence: problem, policy, and politics. Each of these streams can occur in any order, or continuously, and can involve a multitude of actors. The problem stream, most like the other two theories, is where problems which require immediate attention or correction are identified. The policy process, Kingdon argues, only functions to serve crises and problems with simple solutions;

significant general conditions (i.e., poverty, long term unemployment, homelessness) do not typically qualify unless they reach a crisis point or become paired with a simple solution.

The policy stream is where tractable solution, or policy alternatives, flow. They are not yet bound to a problem but exist and can be optioned as a preferred solution that policymakers turn to to solve problems. To get an item placed on, or moved up, a policymaker's agenda two or all three of these processes must come together.

The political stream describes the overall political landscape is influenced by national mood, administrative change, elections, pressure groups, public opinion, social movements, and ideological stances. It is in this stream policy problems are framed and shaped in ways that create tipping points, or "bandwagons" to build support and consensus (ibid, p. 161). This element is completely missing in the RAM and Stage Heuristic models, as politics bares little to no weight on actor(s) decision-making processes.

In addition to the three policy streams, Kingdon depicts a policy entrepreneur who attempts to engineer the passage of specific public policies. Complementary to RAM and Stage Heuristics, a single decision-maker chooses the course of action; however, in the former theories the actor(s) are presented as rational and objective and in Kingdon's model the policy entrepreneur is an advocate with subjective goals. This engineer frames problems, has preferred solutions on hand, and uses national mood and media to get specific items onto the agenda through "policy windows". While neither when nor why a policy window opens is known, policy entrepreneurs work hard to create and identify them (Kingdon, 2003).

Although it mitigates some of the major weaknesses of the rational paradigm, critics of the Multiple Streams model argue decision making, implementation or evaluation stages of the policy process are not treated effectively (Howlett et al., 2009); it is mostly representative of agenda setting at the U.S. federal system (Sabatier, 2007; Baumgartner & Jones, 2009); and its fluidity makes meaningful explanation of policy action difficult to ascertain (Cairney & Jones, 2015). Unfortunately, these criticisms have not produced a more elaborate or deeper theoretical model and we are forced to couple the Multiple Streams model with other theoretical models to resolve them.

Where Stage Heuristics offered us a linear outline of a potential or best-case-scenario policy process and RAM offered us a glimpse into the decision-making process of a unitary actor, Multiple Streams has allowed us to see the process as more fluid, incorporating a multitude of actors and influences without as many exclusions. In the following section, this paper will describe the passage of a specific public policy as well as the context of its passage. The analytic power of each theory will be explored through its application to this policy issue.

Content Analysis: Theories Applied to Charter School Legislation in New York

This section contextualizes the charter school movement in the U.S. after the late 1980s and applies three policy process theories to explore how framing, motivations, and processes led to the adoption of legislation supporting charter schools. We risk being reductionist and oversimplifying the policy process through too narrow a lens when only looking at an event through one policy lens. However, by selecting a micro, meso and macro level theories of analysis, we can hope to depict a mature perspective of what might have been the rationale and influences of adopting charter school policy in New York at this time. Before discussing charter schools in New York, understanding the national discourse around charter schools at that time may provide us a better understanding of the greater influences on why this problem/solution coupling may have been chosen.

School Choice Discourse Background

Charter Schools are part of a bitterly debated ideological discourse between those who believe the public-school system would work more efficiently if it were left up to the market, and those who believe that teachers would teach better if there was deregulation and stakeholder empowerment.

School Choice

The concept of school choice is derived from the economic theory of consumer sovereignty (Gruber 2007; Barr, 2012), which proposes that the consumer can direct production, without influence from the government. By having the choice which school to attend, or through the threat of leaving a poorly performing school, (i.e., "exit" as defined by Hirschman (1987)) consumers can exert influence on educational institutions or educational service providers. Initially, school choice initiatives were promoted as an instrument to privatize public schools, induce racial segregation, and counter increasing participation in democracy (Chubb and Moe, 1990). However, their justification has since transformed into a workable solution for inefficient, underperforming, costly, and socioeconomically segregated public-school systems (Chubb and Moe, 1990).

Milton Friedman (1960), a modern pioneer of school choice advocated for an infusion of the public-school system with free market principals, like competition and standard setting, to better their quality.

> [Vouchers)] would permit competition to develop. The development and improvement of all schools would thus be stimulated…Not least of its benefits would be to make the salaries of school teachers responsive to market forces. It would thereby give public authorities and independent standard against which to judge salary scales and promote a more rapid adjustment to changes in conditions of demand and supply. (Friedman, 1960, p.93)

Here, "choice" is the *right* for children to choose schools and not be forced into schools based on their residence. Once parents can choose the school their children attend, this changes the relationship from benefits and beneficiary to a client and service-provider relationship (Gershberg et al., 2012). The clients, children and their parents, gain agency through their "exit", which is reinforced by the government whose funds follow the child to a private or charter school.

Chubb and Moe (1990) argue that school choice started as a wholesale privatization of public education, as public schools were systematically underperforming, costs were rising, and segregation was rampant; therefore, liberals and conservatives alike were looking for solutions to increase performance in public schools. By the late 1990s, even the liberal educational economists Samuel Bowles, Herbert Gintis, Robert Reich and Diane Ratvich had bought into the school choice rhetoric (Zott, 2012).

Charter Schools

As school choice could serve goals at both end of the ideological spectrum (empowering to some and efficient to others), the goal was to find a market mechanism that could be implemented for school choice that could create the same support. School vouchers, because of their design often were very divisive and did not create the collective will that charter schools did. Charter schools had less to do with ideas about markets and alternatives to government and more with a vision of choice as integral to a strategy for public sector and civic reform (Henig, 2008).

Henig (2008) believed that the growing acceptance of alternative schools, the calls for decentralization of decision-making and empowering rhetoric, and support by the educational community cleared a path for the charter school movement by the late 1990s. At this time, this discourse shifted from privatization of public schools to empowerment of stakeholders. This was especially true once Albert Shanker, president of the American Federation of Teachers (AFT), was on board.

In 1988, Albert Shanker came out in support of charter legislation, and worked with the Minnesota Education department to draft the state's legislation. Shanker had been frustrated with iconoclastic union members whom thwarted innovation and experimentation of schools and wished for alternative educational environments where new pedagogies and methods could be discovered.

This sentiment was shared by other interest groups, who wanted a chance to open schools uninhibited by state regulations and conformity, and parents who were tired of failing public schools. Through empowerment rhetoric, interest groups and parents could be empowered and take part in designing and participating in children's educational experience. By 1994, 11 states had already passed charter school legislation (Wohlstetter et al., 1995). However, by 1996 the AFT and all other

teachers' unions withdrew their support for charter schools as the first reports on charter school progress suggested that they did not provide a better education than traditional public schools.

My first hypothesis is that by the time New York adopted charter school legislation in 1998, over 24 states had already adopted such legislation, and it was rational for policy makers to adopt charter legislation. The next section describes what we know about the charter school movement in New York in 1998, from historical data sets.

Charter School Legislation in New York Background

Just like in much of the rest of the United States, Charter schools in New York state are publicly financed schools that are under the purview of the Department of Education but remain less regulated than traditional public schools (New York City Department of Education, 2018). These alternative schools are supported as a market-based solution to increasing student achievement, where increasing competition will create gains in learning (Friedman, 2002). Henig (2009) argues that in the 1980s and 1990s there were three things which made the charter schools alternative more palpable than other school choice alternatives (i.e. increasing school accountability, centralizing funding and decision-making at the district level, voucher schemes) (Ravitch, 2010; Belfield & Levin, 2005; Ladd, 2002). These three things included: the widespread presence of magnet (gifted) and other alternative schools; the calls for decentralization of decision making by advocacy organizations often in the name of minority empowerment; and, lastly, the education community's support, most notably the American Federation of Teacher's president Albert Shanker.

Albert Shanker had become frustrated with iconoclastic union members who thwarted any kind of school-change efforts and in 1990 came out in support of charter schools. At that time, Shanker worked with the Minnesota Education department to draft legislation which would bring his vision of alternative public schools to fruition. By 1998, 24 states had passed charter school legislation like Minnesota's including New York (Wohlstetter et al., 1995).

In New York, then-Governor George Pataki championed charter schools. The Gazette reported that Pataki had been promoting the legislation for close to a year seeking support from various interest groups including business interests and community development organizations before its passage (Parsavand, 1998). The literature suggests that Pataki framed the policy alternative as a decentralization of power which would transfer power from the Department of Education to school administrators, staff, and parents (Henig, 2009; Williams & Liff, 1997). However, at the same time charter schools were being sold as an empowerment solution, it was clear that pro-market interest groups were in support of the legislation as alternatives to public schools. This difference in rationales, but similar goals, afforded the Governor wide-support and little challenge to charter school legislation at its passage in 1998 (Ratvich, 2010; Henig, 2009).

The question, then, is how can the dominant policy theories, from three distinct levels, help explain the adoption of the Charter School Legislation in New York? Are there rational explanations for the passage of legislation creating charter schools? Or did the confluence of problems, policies, and politics come together because of a policy entrepreneur as presented in the Multiple Streams model? An attempt to answer these questions is presented in the following sections.

Rational Actor Model

As the primary paradigm through which government decision making is analysed (Allison & Zelikow, 1999), RAM is a useful lens through which to evaluate the passage of "New York State Charter School Legislation of 1998." A restatement of the central tenets of RAM, as presented in the previous section, are: a unitary actor (or government personified as a unitary decision maker); actor assumed objectivity and procedural rationality (i.e. clearly defined goals and alternatives available); the completion of an evaluation of consequences of each policy alternative; and a decision is made for an optimal outcome that fulfils the aggregate needs of the people.

From the background presented in the previous section, and from RAM's unit-of-analysis being the individual, we can identify the Governor as the unitary rational actor in the passage of the Charter School Legislation. Governor Pataki can be understood to personify the government as its elected official, and thus sole policy and decisionmaker. Regarding the problem Governor Pataki faced and his rationale for selecting charter schools as his alternative, analysts can infer several justifications.

A browse through most education journals can confirm that most policy solutions to education are defined as an alternative to increase student achievement and reports suggest that was the problem identified by Pataki (Parsavand, 1998). Henig (2009) and Ratvich (2010) suggest that the Governor may have selected the Charter School Legislation alternative specifically as a cost-effective policy because he believed through competition schools would perform better. Market solutions, like voucher-schemes, school choice-schemes, and charter schools, are touted as cost-effective solutions to failing schools, as increased competition could produce an optimal cost effective, and thus more efficient, school system (Friedman, 2002). When several of these initiatives were implemented yet failed to increase student achievement, it was rational to try another market-based solution that was perceived as having a positive cost-benefit analysis. The authors also point out that it is equally plausible that the Governor supported the legislation because he believed that by giving power back to the schools (by letting them be designed and run by local administrators) student achievement would increase (Henig, 2009).

This presentation of Governor Pataki selecting a cost-effective solution implies a cost or risk benefit analysis was completed, to meet a defined goal which would meet all the requirements of

RAM. A problem was identified (low student attainment), a policy alternative was available (charter schools) and the alternative was considered as having a positive cost to benefit outcome and therefore it was selected. However, we are left wondering why Governor Pataki sought support from outside interest groups, as suggested in the historical data. Also, what analyses the Governor to select charter schools as the optimal solution for New York's student achievement predicament. Lastly, how did he determine the aggregate need to base the cost-benefit calculation a rational actor must take. A deeper investigation into the other stages of the policy process could provide us a different picture of the policy adoption.

Stage Heuristics

As the Stage Heuristics describes more processes than RAM, it is reasonable to assume that it will provide a more comprehensive analysis of the Charter School Legislation passed in New York in 1998. From the historical data, we know that several states, including New York, were testing different market-based strategies as solutions to low student attainment. We are also made aware that the Governor receives yearly feedback, in the forms of standardized tests and school evaluation reports, both of which could indicate to the Governor to put (or return) "increasing student achievement" on his policy agenda (NY State Department of Education, 2015; Ratvich, 2010). Since feedback is an integral point in identifying issues and problems to place on the government agenda (Howlett et al., 2009), we could assume that through these scores the Governor was aware of low student attainment and identified it as a problem needing to be placed on the agenda.

As other market-based approaches were tested to no avail (choice, voucher, centralization, for example (Henig, 2009)) and with almost 20 other states having already adopted some form of charter school legislation, we can accept through policy learning, or diffusion (Levin, 2010), charter schools was presented as a logical alternative. What other alternatives he evaluated are not present in the historical data.

Regarding the policy implementation stage, we have little information about how it was rolled out or whether it was implemented with fidelity, which may be due to teachers, implementing the roll out rather than policymakers. Lastly, the evaluation stage is still not complete with reports still be conducted on the state of affairs in charter school implementation decades later (see reports such as Fryer, 2012; NY State Department of Education, 2015).

What we may be able to discern from the Stage Heuristic lens is a linear process of decision making, and in this case, being completed mostly by a single government actor. While this theory provides us with a simplified version of the events, easy to categorize into stages, it makes clear just how short on facts we really are. The deficits of this lens, as I just demonstrated and Allison and Zelikow (1999) suggested, are that assumptions and logical inferences are easy to get caught up in. To

not have any specifics or "evidence about what the actor's objectives, options, and estimates actually were" we end up becoming something of a conspiracy theorist (ibid, p. 49).

Aside from making a large amount of inferences, it is not clear why Pataki was so keen on getting support from diverse interest groups, and why he sold the alternative as an "empowerment solution" when other authors suggest that the benefits were presented in a pro-market perspective. We could guess that neither framing nor interest groups, impacted the bill's passage, but then we are left with pieces of the puzzle unanswered. In which case, another framework might be able to give us a fuller picture of why Charter School Legislation was placed on the agenda, why it was passed, and what influences these other interest groups had in the passage.

Kingdon's Multiple Streams

The Multiple Streams model of policy analysis assumes a multitude of actors and influences, through the confluence of three streams (problems, policies, and politics) which affect the policymaker's agenda. In some cases, a specific policy entrepreneur is found to have prompted a problem-policy (or problem-politics or policy-politics) coupling, and when an opportunity arose, via a policy window, he or she was able to push it through. It is this macro-level systems analysis that distinguishes this theory from Stage Heuristics and RAM. In the previous two theoretical applications we viewed Governor Pataki's activities as rational, systematic, methodical, and most often linear. However, the Multiple Streams model argues that policy is neither simply rational or categorically linear, and while the Governor may have played a pivotal role, he would not have been able to get the legislation passed on his own.

Recalling that the literature described Governor Pataki as promoting charter schools as an "empowering" alternative for over a year before the adoption of the policy, we can assume that he played a role as a policy entrepreneur, as well as personified government decision maker.

If we understand the Governor as a policy entrepreneur whose actions frame charter schools as "empowering" solutions to schools and families, to sway public opinion to accept his policy alternative, this advocacy falls squarely into the political stream and provides us with an explanation where the other models failed (Williams and Liff, 1997). The Governor's advocacy of charter schools was essentially an argument for class empowerment and progressive educator groups and community groups jumped on board (Henig, 2009; Ravitch, 2010).

By March 1998, various ethnic communities and organizations were coming out in support of the legislation, most notably groups of blacks and Latinos, including the head of the Hispanic Federation of New York who typically would be against the market-based solution to education (Parsavand, 1998). To Pataki's advantage, the market-based was not lost on conservative advocates

who also supported the legislation (Ratvich, 2010). By advocating for a specific problem-policy coupling, and assessing and addressing public opinion and mood, and generating enough support that a tipping point was created, Pataki eventually gained enough support from both sides of the isle to get the legislation passed.

The criticism of streams theory, that it does not map well onto other stages of the policy process (mainly decision making, implementation, and evaluation), is immediately visible here; neither decision making, implementation or evaluation is specifically addressed. In the Stage Heuristic and RAM models, there is an assumption that Pataki selected the legislation because it was the most cost-effective, or optimal solution. The streams model suggests Pataki used the political stream to promote a favoured problem-policy coupling by promoting his solution as a decentralized empowerment legislation to gain support by previously anti-market-based solutions interest groups to get the bill passed. However, we are still left to make assumptions about his rationale for selection this policy-solution coupling.

The advantage offered by the Multiple Streams theory, nevertheless, is its ability to provide a reasonable explanation for how diverse interest groups influence the policy process and their buy-in is sought. In sum, through the Multiple Streams model, we can explain Governor Pataki's behaviour, the importance of outside interest group support, and more comprehensively depict (although equally assumption-laden as the former two theories) the passage of Charter School Legislation in New York in 1998.

Impacts for Education Policy

Each of the policy theories provide us with tools to explain the adoption of Charter School Legislation in New York in 1998. RAM provides us a baseline to understand policy actors and decision makers: rational, self-satisfycing, and systematic. However, it is the simplistic and reductionist of the three models. It's assumptions impossibly inhuman, and on its own lacks the ability to describe the steps that Governor Pataki took in order to select this specific problem/solution coupling, nor does it explain other accounts of his promotion of the legislation.

The Stage Heuristic model, with its simplified framework, allows for a more comprehensive picture to be presented of the adoption of Charter School Legislation through the five decision making stages. However, it assumes a linearity and perfect information, which through historical data one can see is not accurate. The Stage Heuristic and RAM models coupled together provide a better picture of what steps were taken to achieve adoption of charter school legislation, however, still not complete.

Lastly, the Multiple Streams model contrasts the former positivist theories to give us a less systematic perspective of policymaking, which acknowledges a subjective driver of policy making

who is influenced by a multitude of actors. While Streams theory is less reductionistic and individualistic as the former two theories are, it also cannot stand alone as a theory that explains the policy process.

What is immediately clear is that using multiple lenses, as first presented by Allison and Zelikow is a worthwhile endeavour. Doing so, especially using theories that look at a policy case through multiple layers (micro, meso and macro such as the three used in this paper) provides us with distinctive, complementary, and sometimes competing perspectives of the policy process. Also, by using these three theories we were able to stay within the political economic discourses and ideologies where the initial justifications for why this problem/solution coupling were promoted. Even being limited by imperfect information and less than transparent institutions, we can glean insights into the policymaking process.

Ultimately, the lack of transparency in policy making limits our ability as policy makers, analysts, policy entrepreneurs and citizens in understanding and seeking to influence the policy process in democratic societies. As Anderson (2011) suggests, data is essential to policy sciences,

> Solid, conclusive evidence, facts, or data, as one prefers, on the motives, values, and behaviour of policy-makers, the nature and scope of public problems, the impact of policies, and other facets of the policy process are often difficult to acquire or simply not available (p. 31).

In this case, Multiple Streams theory provided the most convincing story for the rationale and activities of the passage of Charter School Legislation in New York. However, a policy theory that assumes a bounded rationality, a plurality of actors and influences, and incorporates lessons learned from the failures of the current methods could strive to explain, predict, and create policies in a way that all three of these theories failed to accomplish. While proposing such a theory is beyond the scope of this paper, it is clear that moving past these dated theories, is needed to move the policy sciences forward.

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Examining School Administrators' Beliefs and Understandings about Strategic Planning: An Exploratory Typological Perspective

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Abstract

The present study aimed at determining the planner profiles of school administrators' through unearthing their beliefs and understandings towards strategic planning by adopting a typological perspective. The exploratory descriptive approach was employed in the research. The research was conducted with the participation of 21 school administrators in a large province in Southeastern Turkey. The data were collected via one-on-one interviews. Thematic and conceptual coding revealed that the profiles labeled as "right-handed planner, left-handed planner, analyst and catalyst" by Mintzberg (1994) in the strategic planning process could define school administrators' understandings and beliefs about planning in the current study. In the research, it was revealed that the planner profiles displayed by school administrators differed based on contingent and contextual specificities. However, it was understood that they decided on which planner profile to adopt based on their experiences rather than a technical perspective. The planner profiles of school administrators were discussed in terms of their potential contribution to the strategic planning processes.

Keywords: *Strategic planning, planner profiles, school administrators, qualitative research.*

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Introduction

Organizations can survive and flourish as far as they can cultivate the capacity and resilience to progress towards their goals by responding and adapting themselves to emerging developments, demands and standards. The struggle for survival and progress is inescapable for organizations as they have to propel in uncharted waters in the environment which is unexpected, ever-changing and full of difficult conundrums. Then one of the most crucial things that organizations need to do is to engage in an endeavor for building bricks for a sustainable future for themselves while making the most of the present moment, which requires planning. Planning as a fundamental managerial function can help organizations to painstakingly carry out their missions and also draw the path to be walked and the ultimate goal to be reached in the future brick by brick. However, as the challenges and developments faced are almost completely different from the ones faced in the past, formerly effective techniques, methods, and tools may not assist organizations in keeping up with novel ones under most circumstances both today and in the future. Traditional approaches to planning or outdated ways of tackling challenges may not result in desired consequences or, at least, aid organizations in building the capacity and resilience aforementioned. Strategic planning seems to be promising for organizations, if implemented properly, to cultivate the capacity and resilience to move in desired directions by thinking, learning and acting strategically (Bryson, 2011).

Public organizations are obliged to determine a mission and vision and make strategic planning in accordance with the regulation and adopted principles as a requirement of Public Finance Management and Control Law No. 5018 (2003) in Turkey. Therefore, school administrators' understandings and skills regarding planning may be analyzed systematically at every school through the scrutinization of strategic planning processes. Although making strategic plans is an obligation for educational organizations, some problems arising from various factors are faced with in this process. Among these problems are the ones which are resulted from school administrators' planning skills and understandings and their lack of information regarding planning. Memduhoğlu and Uçar (2012) found that even though school administrators had positive perceptions about strategic planning, they believed that studies pertaining to strategic planning are carried out in opposition to the purpose of strategic planning. In the study by Arslan and Küçüker (2016), it was unearthed that Turkish school administrators regarded themselves insufficient in strategic planning and that they are in need of relevant training. Consistently, Çetin (2013) revealed that both school administrators and teachers could not communicate soundly and that school administrators did not have an understanding regarding strategic management, which led to problems in the planning process. Not only the managerial role that school administrators have bureaucratically but also their power to influence school stakeholders are considered to be amongst the most significant driving forces facilitating the

effective implementation of strategic planning at schools. However, for effective strategic planning, school administrators must have planner characteristics so as to undertake their planner roles properly.

The following sections offer a review of the concept of strategic planning, the benefits of strategic planning for organizations and the factors that hinder the success of strategic planning process and implementation and the conceptual framework that this research was based on.

Literature review

As a broader practice and part of strategic management (Altınkurt & Bali, 2009; Bryson, Edwards, & Van Slyke, 2017), strategic planning can be defined as an approach or process which incorporates concepts, procedures, tools, and practices that help envision the future positioning of an organization and move the organization towards the direction in which it can achieve its future state by coalescing people around a shared vision and balancing their expectations (Bell, 2002; Bryson, 2011; Bryson et al., 2017; Cheng, 2013; Küçüksüleymanoğlu, 2008). Strategic planning requires future-focused thinking (Wilcoxson, 2012); and it is viewed as a process in which an organization defines its mission or goal and makes decisions regarding the allocation of resources to reach its mission or goal (Hu, Liu, Chen, & Qin, 2017). In the public sector, strategic planning is important for achieving goal alignment, continuity of effort, and performance-related effectiveness (Bryson et al., 2017), and it is like an organizing instrument which affects workplace interactions in the organization (Spee & Jarzabkowski, 2011) and the organization's relationships with the environment served in order for these relationships to remain relevant and productive in the long-term (Pashiardis, 1993).

In the field of education, it functions as a process of matching the activities of the school with the current and emerging environment (Davies & Ellison, 1998); and it sets the actions and directions that can lead to development and growth in schools (Wanjala & Rarieya, 2014). Strategic planning leads organizations to engage in self-analysis and develop procedures regarding ongoing evaluation and feedback about their policies and priorities (Fernandez, 2011). Through strategic planning, school administrators can recognize the importance of the future and notice critical trends and inclinations, and thereby, skillfully respond to them by adapting and/or modifying systems and structures in order to address new challenges and situations (Chukwumah, 2015). Schlebusch and Mokhatle (2016) consider that strategic planning is a critical tool for school improvement, and they claim it to be key to the proper functioning of the school. Consistently, Cheng (2011) believes that it functions as a catalyst for the sustainable development of the school. It can also be a valuable tool for the management of organizational change (Conley, 1993), and it is important for organizational success in education (Babaoğlan, 2015) and a crucial element of organizational improvement in all levels of education (Lindahl, 2016).

Another significant issue to be accentuated is strategic planning's role in driving decision-making (Mankins & Steele, 2006). Strategic planning lays the foundation for advanced decision-making: it concentrates the organization on significant issues and challenges and helps it to find what decision-makers should do and to develop their advanced decision-making skills. It, thus, helps achieve improved performance and organizational responses (Demirbolat, 2005).

Conceptual framework

Although effective strategic planning requires the involvement all of the staff (Cheng, 2013) in all processes from the starting phase to the implementation phase, the role that school administrators can play in strategic planning and the effects of leadership-related skills, competencies, and characteristics are highlighted in the related literature. For example, Wanjala and Rarieya (2014) argue that leadership is essential to the successful implementation of strategic planning. Kocaoğlu and Balkar (2016) revealed that school administrators need to become strategic leaders in order for attaining desired results. According to Baloğlu, Karadağ, and Karaman (2008), there are different strategy areas in educational organizations. However, achieving its existential goal is a school's first strategy. In this process, the success of the school depends mostly upon the knowledge, skills, and attitudes of school administrators. In the Arabacı, Namlı, Zincirli, and Özer (2016) study, the lack of managerial support in the strategic planning process was found to be one of the factors hindering the success of strategic planning. Consistently, Chukwumah (2015) found that schools did not have the skills, leadership qualities and commitment to strategic planning practices that school administrators should possess. These studies imply that effective and proper implementation of strategic planning depends on administrators' management understanding and leadership style (Aslanargun, 2011).

Based on the research presented above, we attempted to frame our study around the critical role of school administrators' understandings and beliefs about strategic planning in particular. Revealing school administrators' understandings and beliefs, or mental models, regarding strategic planning can help us learn how they perceive strategic planning, its nature and processes and the factors affecting the success and failure of strategic planning, and the invisible variables regarding behaviors of school administrators in the strategic planning process. As understandings and beliefs are mostly embodied in form of attitudes and behaviors towards specific actions, we believe that understandings and beliefs of school administrators may exert influence on their strategic planning actions in detail. Their understandings and beliefs can unearth whether they could act as the sole authority in the process or engage in collaborative actions, ensuring all of the stakeholders' involvement, communication, and commitment. Through such a perspective, the leadership fallacy that is addressed by Bell (2004) in the strategic planning process can also be understood.

By examining Turkish school administrators' understandings and beliefs about strategic planning, their characteristics as planners were revealed. School administrators' planner profiles were unearthed through a typological perspective in the research. Thus, a picture of how school administrators exhibited their management roles as well as planner roles were attempted to be built up.

Purpose of the Study

This study attempted to determine school administrators' planner profiles through unearthing their beliefs and understandings towards strategic planning by adopting a typological perspective. With this purpose in mind, the following research questions were attempted to be answered in the study:

1. What are school administrators' beliefs about strategic planning?

2. What understandings do school administrators have towards a successful strategic planning preparation and implementation process?

3. What are the planner profiles that school administrators' planning understandings and beliefs are compatible with?

Method

This study was conducted through a descriptive approach by using qualitative methods and techniques. The exploratory descriptive approach was employed in the research as it is one of the qualitative descriptive methods which focus on social contacts, life events and relationships between people. In this approach, the meanings that a group of people attaches to any events emergent in their lives are examined (Rizzo Parse, 2001). Qualitative descriptive inquiry helps researchers to understand the phenomenon in question, its nature, how and in what way it is perceived (Sandelowski, 2000).

This section presents information about the study group and its characteristics, collection of the data and data analysis. Furthermore, the studies conducted for validity and reliability are delineated in the parts specifying the collection of data and data analysis as the issues related to validity and reliability were dealt with in these parts.

The Study Group and Its Characteristics

The study group of the research consisted of 21 school administrators working at schools in Gaziantep province, a large city in the South-east of Turkey. It was thought that private and public school administrators' understandings towards planning might be different due to socioeconomic and cultural characteristics of their schools. For this reason, maximum variation sampling technique was used to ensure the diversity in terms of points of view when selecting the participants. The

participating administrators were selected on a voluntary basis. Of the administrators, 11 administrators were working at public schools, while 10 of them were working at private schools. Their ages ranged between 36 and 49. Their seniority was between 4 and 10 years. 9 of the administrators had a graduate degree, and 12 of them had an undergraduate degree.

Collection of the Data

The data were gathered via semi-structured interview technique. Previous research conducted on strategic planning studies at schools was examined while constructing the questions used in the interviews. Then an interview protocol including 10 main interview questions and 8 related probes was developed. Two pilot interviews were held by using this protocol. However, it was seen in the pilot interviews that school administrators knew strategic planning process very well and managed the process actively and therefore they gave comprehensive answers to the questions and while answering the questions, they answered other questions as well.

It was observed that asking detailed questions hampered school administrators from expressing their views clearly by making connections between situation, and it was decided that asking comprehensive (general) questions would be more effective. For this reason, the interview form was reduced to 5 main comprehensive interview questions by taking into consideration school administrators' answering styles and the flow of the pilot interviews. The length of the interviews conducted with school administrators ranged between 38 and 77 minutes. As for the credibility (internal validity) of the research, it was paid attention to keep the interviews long in duration and thereby gather deeper and more accurate information in this way. Furthermore, the researchers summarized what they understood from the participants' answers and took their consent on the accuracy of what they understood (Erlandson, Harris, Skipper, & Allen, 1993). The interview questions developed in accordance with the first and second research problems are presented below:

1. Do you attach importance to the preparation of strategic plans at your school? For what purposes do you think planning should be done?

2. What issues should be considered in the planning process in order to ensure the success of strategic planning? Why?

3. Which characteristics of your school do you consider in preparing and implementing strategic plans? Why?

4. What are the issues that you take into consideration as you believe that they have critical value for the implementation of strategic plans? Why?

5. How do you ensure teachers' participation in the preparation and implementation process of strategic plans?

School administrators' answers were recorded via a tape recorder during the interviews and were then transcribed verbatim. Each participant was given a code specifying their school type as such S-SA1 (State School - School Administrator1), S-SA2, P-SA1 (Private School - School Administrator1), P-SA2, and their views were transcribed using these codes.

Data Analysis

The research data were analyzed through content analysis. Content analysis was conducted in two phases. In the first phase, thematic and conceptual coding was done for school administrators' understandings and beliefs about planning. The coding was done at theme and sub-theme levels. The themes were identified in line with the interview questions, but the sub-themes were determined based on school administrators' views. Therefore, the themes in the research were labeled as "purposes of strategic planning, success factors in strategic planning, school characteristics that affect strategic planning, success factors in the applicability of strategic plans and ensuring participation in the planning process". 39 sub-themes related to these five themes were specified. In order to ensure the reliability of the research, the codes were constantly compared with each other in the coding process and thus whether there was deviance in coding or not was detected (Gibbs, 2007). For internal validity (credibility), the results obtained during the content analysis were given to two school administrators, and their consent was taken on whether the codes reflected their views (Erlandson et al., 1993).

In the second phase, first of all, the concepts and characteristics which represent planner profiles regarding strategic planning were investigated in the light of the related literature. Specified concepts and characteristics were compared with the results of the content analysis conducted in the first phase. As a result of this, the profiles labeled as "right-handed planner, left-handed planner, analyst and catalyst" by Mintzberg (1994) in the strategic planning process could define school administrators' understandings and beliefs about planning in the study. For this reason, the characteristics identified as a result of the comprehensive conceptual coding regarding the profiles were incorporated into a larger characteristic in line with their joint aspects. After this incorporating coding process, right and left handed planners' characteristics were collected under six umbrella concepts, and the characteristics of the analysts and catalysts were combined into five umbrella concepts. Subsequently, the sub-themes which showed school administrators' understandings and beliefs about planning and were identified in the first phase of the content analysis were matched with the characteristics of the profiles. Thus, the characteristics that school administrators had as planner were listed as "right-handed planner, left-handed planner, analyst, and catalyst" depending on the profiles.

In some of the matches, it was observed that more than one feature and different profiles were matched with one sub-theme. The characteristics related to profiles featured as umbrella concepts and covered more than one characteristic; therefore, the sub-theme related to school administrators' beliefs and understandings about planning matched with more than one characteristic of the same profile. The fact that there were the points at which different profiles clashed caused multiple matching of the same sub-theme under different profiles. When examining school administrators' characteristics related to these profiles, authentic quotations were taken from school administrators' talk. The coding process pursued in the second phase which aimed at determining school administrators' planner profiles and related characteristics contributed to the internal reliability of the research as it was done in accordance with a certain conceptual framework (Mintzberg, 1994) in the study and the data were presented via a descriptive perspective without any interpretations (LeCompte & Goetz, 1982). In order to ensure the validity of the research, the research as a whole was given to an external evaluator, and thus feedback was sought for the objectivity of the research processes and comprehensibility of the findings (Creswell, 2014). For the confirmability (external reliability), the raw data and results obtained were examined comparatively, using the confirmative strategy by a field specialist (Erlandson et al., 1993), and thus the specialist's approval was taken about the cohesion between the raw data and the results. Within the context of consistency (internal reliability) study, the methods used, the coding process and the codes emerged were presented to an expert, and feedback was taken from him about the consistency of the methods utilized (Morrow, 2005).

Findings

In the findings section of the research, first of all, the findings related to the first (school administrators' beliefs about strategic planning) and second (school administrators' understandings about a successful strategic planning preparation and implementation process) research questions were provided. Then based on the answers to the first and second research questions, planner profiles regarding school administrators' understandings and beliefs about strategic planning (right-handed vs. left-handed & analyst vs. catalyst) were determined.

The First Research Problem: School Administrators' Beliefs about Strategic Planning

School administrators' beliefs about strategic planning were coded based on themes of purposes of strategic planning and success factors in strategic planning. Table 1 demonstrates the thematic coding regarding school administrators' beliefs about strategic planning.

Table 1. *The Thematic Coding Regarding School Administrators' Beliefs about Strategic Planning: Themes of Purposes of Strategic Planning and Success Factors in Strategic Planning*

Purposes of Strategic Planning	Success Factors in Strategic Planning	
Securing the order (st1)	Developing applicable strategies (st8)	An active research process (st15)
Managing change (st2)	Making average decisions that everyone can agree (st9)	Thinking the consequences of strategies (st16)
Being innovative and creative (st3)	Making situational analysis (st10)	Developing strategies appropriate for school characteristics (st17)
Creating a vision (st4)	Considering the changing needs (st11)	Being future-oriented (st18)
Obtaining the competitive advantage (st5)	A teaching staff inclined to and voluntary for teamwork (st12)	Generating realistic ideas (st19)
Changing the way of doing tasks (st6)	Developing creative ideas (st13)	Observing other schools (st20)
Changing attitudes (st7)	Strategic thinking (st14)	

*St: Sub-theme

When the views of school administrators about strategic planning are examined, a dichotomy can be seen to have revealed. Apart from school administrators who evaluated the purpose of strategic planning from a developmental perspective by regarding it as managing change and being innovative, there were some school administrators who considered strategic planning in a more static perspective such as securing the order and just changing the way of doing tasks. S-SA2, looking at strategic planning from a static perspective, paid attention to the fact that planning is, in essence, a part of the bureaucratic structure by commenting: *"Planning is done in order for the tasks to be run properly. Under the existing circumstances, it is impossible to prepare strategic plans for improving schools. We do not have enough resources and authority to do this."* Despite this, when the purposes attributed to strategic planning are examined, it may be suggested that evaluations made from a developmental perspective preponderated. P-SA6, who made an evaluation from a developmental perspective, the planning understanding supported both him and his school to renew: *"I, first of all, make efforts to be creative and innovative in strategic planning. If I do not have an innovative planning and management style, then I can only maintain the status quo. I continuously strive to develop myself in order to be innovative and form an atmosphere open to innovation at my school."*

The only point that private and state school administrators dissented without regards to purposes of strategic planning was about the contribution of planning in gaining competitive advantage. This purpose was only accentuated by private school administrators. One school administrator (P-SA10) stated that their school can be a preferred one thanks to effective strategic

planning: "*As I work at a private school, I have to think about the issue of competition. Our school's being a preferred one, in fact, depends upon having a good strategic plan. I try to follow what activities other schools carry out. Based on what I have learned, I attempt to detect our shortcomings or what we can do better."* Thus, she paid attention to the function of planning in launching a competition through development in the private sector.

The sub-themes under the success factors in preparing strategic plans theme demonstrate the differences between school administrators' planning understandings. One group of school administrators stressed development, competition and change realized through planning by suggesting some aspects such as considering the changing needs, developing creative ideas, being future-oriented and observing other schools.

S-SA7 believed that planning must contribute to innovativeness and creativity of the schools and expressed his views as follows: *"I do not want to make strategic plans just for the sake of doing. I want it to make a contribution or provide a benefit for the school. I always think what a new thing I myself can do at this school. I want teachers to produce new and creative ideas that can be used in strategic plans."* The school administrators who focused on developing applicable strategies, making average decisions that everyone can agree and generating realistic ideas can be said to have displayed an understanding which supports the status quo and is more static. S-SA4 had such a view: *"What is important for me is the applicability of what is written in plans. You can write everything in plans, but you need to be realistic. I want what we plan to realize. For this very reason, I pay attention to the fact that the strategy developed is applicable."* This administrator implied that what can be done with strategic planning is limited.

The school administrators who entirely mentioned the technical validity of strategic planning such as making situational analysis, strategic thinking and an active research process drew a different portrait of an understanding regarding the planning process. S-SA3 whose understanding of planning depends on a technical and scientific base argued that the success of strategic planning is linked to making situational analysis and conducting continuous research: *"We cannot start strategic planning before making a situational analysis. However, to criticize myself, I could not every time obtain rich data during situational analysis. When I face with such a situation, I make effort to gather more data. This is because if you could not get adequate data by making situational analysis, you cannot make a right and effective strategic plan."* The important point to be mentioned here is that the school administrators who adopted a planning understanding depending on a technical and scientific base were holding master's degree.

When the views of private and state school administrators regarding the success factors in strategic planning are examined, significant differences can be noticed. State school administrators

made more emphasis on determining applicable strategies and realistic ideas; while private school administrators underscored developing creative ideas and engaging in an active research process. The reason behind this difference is noted in S-SA1's statements as follows: *"[…] If the resources owned are inadequate, one cannot make too many innovations. In order for a plan to be successful, we focus on determining our goals, namely, what we can do."* These explanations show that financial and physical deficiencies at S-SA1's school hampered creativity and forced him as an administrator to carry out more reasonable activities.

The Second Research Problem: Understandings about a Successful Strategic Planning Preparation and Implementation Process

School administrators' understandings about a successful strategic planning preparation and implementation process were coded based on the themes of school characteristics that affect strategic planning, success factors in the applicability of strategic plans and ensuring participation in the planning process. The thematic coding regarding the participating school administrators' understandings about a successful strategic planning preparation and implementation process are presented in Table 2.

Table 2. *The Thematic Coding Regarding School Administrators' Understandings about a Successful Strategic Planning Preparation and Implementation Process: Themes of School Characteristics that Affect Strategic Planning, Success Factors in the Applicability of Strategic Plans and Ensuring Participation in the Planning Process*

School Characteristics That Affect Strategic Planning	Success Factors in the Applicability of Strategic Plans	Ensuring Participation in the Planning Process
Budget and equipment (st21)	Determining applicable strategies (st26)	Assignment/Behaving in accordance with the bureaucratic structure (st33)
The number of teachers/school size (st22)	Providing the required conditions for the implementation of the strategies (st27)	Voluntary participation (st34)
An innovative teaching staff inclined to teamwork (st23)	Respecting school administration (st28)	Encouraging to think about the future (st35)
Teachers' fields of specialization (st24)	Sharing strategies (st29)	Sharing goals and strategies (st36)
The way of doing tasks (st25)	Not being committed to strict rules (st30)	Team building/Not behaving hierarchical (st37)
	Teamwork (st31)	Holding meetings (st38)
	Ensuring the participation of school stakeholders at every stage of the planning (st32)	Making teachers a part of the problem (st39)

The sub-themes belonging to the school characteristics that affect strategic planning theme included school administrators' evaluations of teachers' characteristics to a large extent in terms of school characteristics. It is believed that teachers' fields of specialization and their inclination for teamwork are determinant factors in the strategic planning process. School administrators stressed that a planning process that does not involve teachers is actually not planning. P-SA8 who emphasized the significance of teachers' fields of specialization argued that: *"The tasks that teachers can carry out or contribute must be assigned to teachers in the planning process. At what aspect teachers can make contributions determines the scope of planning partially. I know for what issues I can want support from the teachers working at my school."* She stressed the significance of a specialized staff.

When private and state school administrators' views are compared, private school administrators can be seen to have emphasized teachers' fields of specialization and teamwork; however, state school administrators stressed the issues related to budget and equipment. S-SA11 believed that school budget and equipment restrict the goals of strategic plans and that inadequate budget impacts planning negatively: *"Actually, we make plans according to the school budget and the resources owned. I can say that the budget and physical facilities determine the goals of planning. Unfortunately, the budget of state schools is not adequate for this."* All of the state school administrators stated that the school budget and the facilities are the primary aspects which are looked at in preparing strategic plans.

In the success factors in the applicability of strategic plans theme, school administrators opined that some of the success factors stemmed from themselves, and others believed that it is liked by teachers. They viewed their roles to be more dominant in the success factors such as determining applicable strategies and sharing strategies. The success factors like teamwork and respecting school administration were regarded to be related to teachers' attitudes. Among the administrators who assigned more roles to school administrators in the success of the planning process, S-SA9 argued that recognition of the strategies triggers teamwork, and thereby she considered sharing strategies as a task: *In order for strategic plans to be successful, they must be known by all school staff. Teachers who do not know what and why we are to do are not volunteer to participate in this process. In fact, parents also must be knowledgeable about this issue because we need their support too."* The explanations of S-SA9 implied that she adopted a participatory management approach for the success of strategic planning and undertook her responsibility in realizing this approach. P-SA1, who is one of the school administrators thinking that teachers' attitudes and participation are more critical in the success of strategic planning, commented that: *"Everyone must respect each other in the planning process. Planning is the task of all of us. If it is thought that it is only my job, then we will be unsuccessful. I do not want to be in a position of someone who forces teachers to do something."* With these statements,

he paid attention to that he perceived teachers' displaying a participative and supportive attitude in the planning process within the context of respecting school administration.

In the success factors in the applicability of strategic plans theme, a comparison of state and private school administrators' views revealed that the success factor of not being committed to strict rules was mostly accentuated by private school administrators. This difference demonstrates that private school administrators adopted a more flexible management understanding in the strategic planning process. P-SA9 held such a view and stated that: *"I do not think that there may be a plan which can be valid under every condition. Because the needs of the schools change continuously. My management style is not always the same. I act according to contingencies. I can say that I take into consideration the changing needs of the school."* School administrators who had similar views perceived strategic planning as managing change, and they, therefore, believed that planning must not be restricted by rules.

In the ensuring participation in the planning process theme, school administrators were observed to have mostly preferred non-traditional methods in ensuring participation in planning. However, in accordance with traditional management understanding, they preferred some practices such as assignments and holding meetings. The ones preferring these practices were those who argued that there was an unwillingness in participation in strategic planning in general. Consistent with these administrators, S-SA8 opined that: *"The only way of ensuring participation is making assignments. If it is left to voluntariness, no one wants to work extra."* By these statements, he noted that assignment is one of the methods which he had to prefer due to obligation. Encouraging to think about the future and making teachers a part of the problem stood out as striking and distinctive practices in ensuring teachers' participation. P-SA4 thought that strategic planning studies attract more attention in the case of experiencing common problems or everyone's being bothered even in indirect ways from the problems. He noted: *"It is of utmost importance to involve teachers in the strategic planning process. They must be encouraged to generate new ideas. But, when I say 'Come on, we are preparing new ideas now', no one will come up with new ideas. For this, I sometimes make teachers a part of the problems. In other words, no one makes effort to try something new before their comfort is disrupted."* General views of school administrators regarding this issue suggest that making problems common requires too much effort in terms of social relations and communication; therefore, they did not use this method despite being an effective one.

The views of state and private school administrators held similarities in the ensuring participation in strategic planning theme. The point that both state and private school administrators jointly underscored was that encouraging to think about the future is a necessary pathway to ensuring participation in strategic planning. S-SA5 commented: *"Strategic planning is about the future. It is*

about working in the direction of a vision. If the ones working at a school are not interested in its future, there will be nothing as strategic planning." P-SA2 had similar views: *"I encourage everyone to think about the future at my school. What do we want to do? What kind of a school do we want to be? These questions are very significant. While seeking answers to these questions, you have almost developed a strategic plan."*

The Third Research Problem: Profiles Regarding School Administrators' Understandings and Beliefs about Planning: Right-handed Planner vs. Left-handed Planner and Analyst vs. Catalyst

Table 3 shows the characteristics of right-handed planner and left-handed planner profiles which matched the sub-themes determined in the coding regarding school administrators' understandings and beliefs about planning.

Table 3. *The Profiles Regarding School Administrators' Understandings and Beliefs about Planning (Right-handed vs. Left-handed Planner)*

Profile 1: Right-handed Planner	Matched Sub-themes	Profile 2: Left-handed planner	Matched Sub-themes
Striving for securing the order	st1, st9, st33, st38	Flexible management	st11, st24, st30, st31, st32, st34, st37
Making strategies ready for use	st10, st21, st26, st27	Adhocracy	st11, st24, st30, st37
School size	st17, st22	Valuing creative ideas	st2, st3, st13, st30
Bureaucratic structure	st1, st9, st25, st28, st33, st38	Strategic thinking	st5, st14, st16
Collecting the existing data	st8, st10, st15, st19, st25	Conducting in-depth research	st10, st15, st20
Developing and communicating strategies	st29, st36, st38	Developing/finding strategies	st8, st14, st20

When Table 3 is examined, it can be seen that there were 24 matched sub-themes constructed by 18 sub-themes in the right-handed planner profile; and there were 24 matched sub-themes formed by 17 sub-themes in the left-handed planner profile. This finding may suggest that school administrators used their left and right hands, from a metaphoric perspective, in balance. The fact that planning understandings of school administrators both complied with right-handed planning profile representing the traditional management understanding and left-handed planning profile denoting a more modern and technical understanding may indicate that school administrators displayed different approaches at different times by taking into consideration contingencies in planning. The explanations of

school administrators also support this inference. S-SA3's views: *"[…] There are some times when I assign teachers, and there are some times that I allow their voluntary participation"* and P-SA1's views: *"[…] Actually, I cannot say that there is only one solution for success. Behaving in a way that circumstances permit brings success"* revealed that right-handed and left-handed planner profiles emerge in school administrators' planning understandings according to contingencies.

When the profiles of private and state school administrators are compared, a similar portrait appears. State school administrators had right-handed planners' characteristics of striving for securing the bureaucratic structure and order more, whereas private school administrators owned the characteristics of left-handed planners such as flexible management, adhocracy and caring for creative ideas. Private school administrators did not almost mention bureaucracy in their explanations, while adhocracy did not find a place in state school administrators' explanations. For this reason, it may be argued that private school administrators had a more compatible stance with the left-handed planner profile despite not being a dominant one.

Acting according to the bureaucratic structure and aligning planning studies by collecting existing data are the characteristics of the right-handed planners who have a more traditional disposition, and these characteristics are the most compatible ones that the participating school administrators had. It was understood from their explanations that school administrators acted according to the bureaucratic structure due to their responsibilities rather than their planning understandings. S-SA11 stated that: *"[…] Indeed, I would to do very different things. Behaving more innovatively and taking risks can improve the school more. But I, first of all, think about my responsibilities and what I have to do. I need to behave bureaucratically for this. Carrying out my duties during the planning phase already takes too much of my time."* Thus, this participant emphasized that his paying attention to bureaucracy is dependent on his desire to carry out his fundamental duties in the planning phase.

When the characteristics of private and state school administrators as right-handed planners are compared, it can be seen that the characteristic of paying attention to the bureaucratic structure is not compatible with private school administrators' planning understandings. The characteristic of securing the order also takes less place in private school administrators' planning understandings compared to that of state school administrators. Differently, private school administrators regarded the notion of order as a prerequisite for

school improvement. P-SA7 explained her views as follows: *"Strategic plans are made in order to improve schools. However, in order for schools to improve, firstly the tasks at schools must be carried out properly. Everyone must do what they are supposed to, there must be order and discipline at schools."* State school administrators considered securing the order as carrying out routine tasks at schools properly.

The planning understandings of the participating school administrators matched most with flexible management among the characteristics representing the left-handed planner profile. Their planning understandings were compatible with adhocracy and caring for creative ideas, following flexible management. The school administrators in whose explanations were some aspects related to flexible management noted that adopting a strict attitude in management hampers the planning process. P-SA5, who stated that he gained flexibility in the planning phase over time, argued that: "*[…] prepared plans must be renewed according to needs. I did not use to change the decisions and the plans I made at the beginning. Yet a static point of view does not work in planning."* The administrators who made similar explanations stressed that a dynamic standpoint is a key to successful planning.

When the left-handed planner characteristics of private and state school administrators are compared, it can be seen flexible management and adhocracy were more dominant in private school administrators' planning understandings. Especially, the emphasis on adhocracy came to the forefront in private school administrators' explanations. The administrators considered adhocracy within the context of building temporary workgroups, caring for voluntariness and not behaving with a hierarchical understanding. P-SA3 stated he acted in parallel to this in the planning process by commenting: *"Teachers' work styles and voluntariness are really crucial. […] We try to perform teamwork in the strategic planning process. A certain hierarchy does not exist among us. What is important is to come up with new and useful ideas."* The views of P-SA3 indicate that including adhocracy in the planning processes is closely related with teachers' voluntariness and support.

Table 4 demonstrates the characteristics related to analyst and catalyst planner profiles matched with the sub-themes identified in the coding regarding school administrators' understandings and beliefs about planning.

Table 4. *The Profiles Regarding School Administrators' Understandings and Beliefs about Planning (Analyst vs. Catalyst)*

Profile 3: Analyst	Matched Sub-themes	Profile 4: Catalyst	Matched Sub-themes
Thinking about the results of the strategies	st8, st14, st16, st19, st21, st26, st27	Using provoking and shocking tactics	st7, st14, st32, st34, st39
Analysis for competition	st5, st20	Compelling to think about the future	st4, st11, st18, st32, st35
Developing alternative conceptual interpretations	st6, st7, st30	Generating creative/innovative pathways	st2, st3, st13, st30
Working with data	st8, st10, st15	Questioning the assumptions	st6, st7, st30
Intra-organization work	st9, st12, st17, st23, st24, st27, st29, st31, st32, st38	Involving in developing ideas rather than practices	st3, st4, st8, st13, st16, st17, st18, st19, st26

Table 4 demonstrates that the analyst profile included 25 matched sub-themes constructed by 23 sub-themes, and there were 26 matched sub-themes formed by 19 sub-themes in the catalyst profile. Based on this finding, it may be suggested that the participating school administrators had a balance in terms of adopting analyst and catalyst standpoints in the planning process. A comparison of both private and state school administrators' profiles indicated that state school administrators had an understanding of planning compatible with the analyst profile; while private school administrators' understandings of planning was compatible with the catalyst profile. All of the characteristics related to the analyst profile except for analysis for competition and developing alternative conceptual interpretations were found in state school administrators' understandings regarding planning. State school administrators also had some characteristics like compelling to think about the future and involving in developing ideas rather than practices which belonged to the catalyst profile. All of the characteristics related to the catalyst profile could be traced in the planning understandings of the private school administrators.

School administrators' understandings and beliefs about planning matched most with the characteristics intra-organization work and thinking about the results of the strategies belonging to the analyst profile. The reason why the most dominant analyst characteristic was intra-organization work was that school administrators regarded strategic planning as a process which mostly takes place at schools and environmental factors and actors are not involved. Consistent with this argument, S-SA4 noted that environmental factors are ignored because no support is provided by saying: *"[…] We attempt to make plans appropriate for the characteristics of the school through engaging in small-scale brainstorming meetings with teachers. The facilities we own and the school characteristics lead*

planning. […] Unfortunately, we could not receive any support from outside the school. Therefore, we do what we can with the opportunities we have." School administrators' thinking about strategies as analysts implies that they make effort to make strategic plans via a realistic approach in line with the existing opportunities. S-SA4 believed that: *"[…] I think whether there is a possibility of being successful at the end of the planning. I am not apt to make plans without thinking. To me, there may be a successful plan if one knows the school conditions and accordingly determines attainable goals."* When private and state school administrators' planning understandings as analysts are compared, it is seen that only private school administrators had the characteristic of analysis for competition. P-SA10 argued that competition is unavoidable at private schools due to the private sector and marketing understanding: *"[…] Strategic planning helps to provide services to students more by enhancing the quality at private schools. The competition between schools makes it compulsory to make the planning properly."*

The participating school administrators' understandings regarding planning was most compatible with the characteristic of involving in developing ideas rather than practices from among the characteristics of the catalyst profile. The fact that school administrators considered themselves at the outset of the planning process and adopted the directing role more in this process caused it to become the most dominant catalyst characteristic. P-SA6 attributed the leadership and directing roles to himself in the strategic planning process, and he proposed that: *"The administrator cannot do every task in planning. I must be a person who acts as a leader pointing out what needs to be done."*

When private and state school administrators' characteristics compatible with the catalyst profile are investigated, it can be understood that unlike state school administrators, private school administrators had the characteristics of generating creative/innovative pathways and questioning the assumptions more. P-SA3 suggested with regard to questioning that: *"[…] We share our thoughts and suggestions with all of the administrators and teachers. I try to find the wrongs known as right. I attach value to generating solutions apart from our routine ways."*

P-SA3's explanations showed that questioning the assumptions, in fact, contributes to being innovative. Private school administrators noted that being innovative provided them with an enormous power in strategic planning and that the opportunities required for being innovative are mostly found at private schools. State school administrators' answers to different questions in the research indicated that they are also open to innovation, but they could not become innovative due to the deficiencies in terms of the budget and equipment. With regard to the significance of developing creative and innovative pathways, P-SA8 stated that: *"If the strategic plan does not bring an innovation in the school, then it may not be very beneficent. I constantly think about what new and useful things we can do for our school. […] Private schools are more advantageous in this sense, namely resources. It is*

really difficult to try something new if there are no adequate resources." The school administrators who viewed strategic planning from an innovative perspective considered planning as a tool for school improvement.

Discussion, Conclusion, and Suggestions

Attaining desired outcomes from the planning processes at schools and improving school performance through planning indisputably require school administrators' commitment to the planning processes. Schaefer and Guenther (2016) revealed that school administrators' playing a dominant role in strategic planning increases organizational performance and helps implement the strategies successfully. Graczewski, Ruffin, Shambaugh, and Bowles Therriault (2007) stated that school administrators;' continuous support is needed for the effective implementation of school improvement plans. For this reason, examining school administrators' planning understanding and skills is critical for school improvement to be ensured with planning. It is possible that the characteristics that school administrators must have may vary based on their countries' socio-cultural and socio-economic features and contextual characteristics of schools. In this research, how school administrators adopt an understanding in the planning processes was attempted to be revealed within the framework of the contextual characteristics of Turkish schools by investigating school administrators' planner profiles. The planner characteristics matching with Turkish school administrators' planner understandings were investigated, and thus the planner profiles congruent with these characteristics were unearthed. It was understood in the study that Turkish school administrators had characteristics which were consistent with four planner profiles. In other words, a school administrator who had the characteristics specified in one planner profile might have the characteristics of another profile. Although the current study did not aim at making clear distinctions between private and public school administrators' planning understandings, involving both public and private school administrators in the same study to reflect the general structure of Turkish education system may have been effective in obtaining such a result. Public school administrators had a planning understanding congruent with right-handed planner and analyst profiles, while private school administrators had a planning understanding consistent with left-handed planner and catalyst profiles. Nevertheless, it was concluded that both public and private school administrators had a planning understanding congruent with the four planning profiles.

The researchers in the field of strategic planning have dealt with strategic planning from functional perspectives rather than procedural ones and thereby they do not want to be inundated with empirical questions (Bryson et al., 2017). Turkish school administrators also adopted a similar attitude to that of strategic planning researchers. It was understood that school administrators did not consider planning as a technical process thoroughly. Instead, they mostly evaluated planning activities based on their experiences. School administrators opined that planning activities must be carried out cautiously and that the reflections of these activities may provide positive outcomes for schools if conducted in a

right way. In a similar vein, Korosec (2006) detected that strategic planning is required for determining strategic priorities and implementing change. School administrators' holding a common view about the benefits of strategic planning may lie behind the fact that they had proper characteristics matching with the four planner profiles. This is because successful strategic planning requires the common use of the four planner profiles by taking the contingencies into consideration. For this reason, it may be wrong to assert that one planner profile is more important or beneficent than another one.

In order for strategic plans bring about hoped-for results, it is required that planning processes are examined through a data-based approach, namely by adopting a research-based planning philosophy. Tyre, Feuerborn, and Woods (2017) argued that a data-based approach must be adopted in the planning process not only for evaluating the implementation outcomes but also determining the needs. In this research, it was revealed that school administrators attached importance to working through data in the planning process as analysts and right-handed planners. Similarly, Yıkıcı and Altınay (2017) found out that school administrators made planning by analyzing the existing conditions in the strategic planning process. Graczewski et al. (2007) uncovered that school administrators wanted to have a clear conceptual framework regarding the steps to be taken in the planning processes. These characteristics of school administrators are really critical for analysts and right-handed planners who pay utmost importance to working with data. The fact that school administrators had a clear conceptual framework as planners is a situation emerged as a result of the research processes (working with data) and does not mean that a certain strategy is adhered to. At this point, the administrators owning the analyst profile attempted to change the way of doing things by stressing the generation of alternative conceptual interpretations.

It was concluded in the research that being future-oriented is among success factors in strategic planning. Specifically, being prepared for every condition to be faced in the future by thinking in a multidimensional perspective is considered to be among the most significant benefits a planning process can provide. In this sense, left-handed planners and catalysts have profiles which highlight being future-oriented. It was also found that school administrators as left-handed planners paid more attention to innovative thoughts and strategy development, and they as catalysts used provoking and shocking tactics so as to have teachers to think the future. Various techniques could be used for encouraging future-oriented thinking in planning processes. Mather (1998) detected that scenario construction is a significant technique in differentiating potential futures in school planning processes. Likewise, Berry (2007) argued that developing alternative scenarios can help manage change better in strategic planning process. However, in this research, although the concept of thinking about future was highly emphasized by school administrators, none of the administrators did offer a concrete way of how such kind of thinking can be realized except for the administrators in the

catalyst profile. The school administrators in the catalyst profile prepared an environment of constructive conflict in the school by utilizing provoking and shocking tactics and compelled teachers to think about the future. Neuman (1998) noted that the elements of conflict should exist in the planning process in order for plans to be effective, otherwise, plans may lose their meaning.

School administrators, as a requirement of their planner roles, must have strong communication skills so as to build connections between school activities and stakeholders. No matter which planner profile they have, it is impossible for school administrators to make plans without nourishing communication and collaboration (Eryaman, 2006; Eryaman & Bruce, 2015). The importance that school administrators attach to communication and collaboration helps them for ensuring participation in the planning process. Involving the stakeholders of the school at every phase of the planning process was regarded as a success factor in the applicability of the plans by the participating school administrators. Tyre et al. (2017) argued that managers should encourage the staff having similar fields of interest to collaborate. Schäffer and Willauer (2003) revealed that the learning that achieved during strategic planning increases the effectiveness in the applicability of the plans. For that reason, informing teachers in this process and viewing planning activities as an opportunity for organizational learning may help gain the desired results in planning. Catalyst school administrators, in particular, mostly deal with coming up with ideas rather than implementation; it is, therefore, significant for this profile to place more importance on this kind of learning process. This is usually sufficed by involving the stakeholders in every phase of planning. Soini, Pietarinen, and Pyhältö (2016) argued that the strategies developed by school administrators should be comprehensive in terms of professional learning communities in particular and that more attention must be paid to sharing ideas with teachers. In this research too, sharing goals and strategies and holding meetings were accentuated among the methods aiming at enhancing participation in the planning process. However, making use of meetings only in ensuring teacher participation represents a very bureaucratic standpoint. The present research showed that developing and communicating strategies and bureaucracy were mostly preferred by the administrators in the right-handed planner profile. The administrators fitting into the right-handed planner profile may face with the risk of failure in terms of ensuring participation as they develop strategies on their own and communicate them as a consequence of their adhesion to bureaucracy.

Although the participating school administrators had awareness about the significance of the participation of the stakeholders, they mostly considered only teachers as stakeholders in the planning processes. Davies (1998) stated that the school must be focused on as a whole in the strategic planning processes at schools. Annandale, Heath, Dean, Kemple, and Takino (2011) noted that plans must be evaluated with the participation of all of the educational stakeholders, namely via using a multi-dimensional standpoint. According to Berry (2007), administrators deal with every economic,

political, cultural and social issue that may affect the organization and other issues regarding the environment of the organization in the strategic planning process. Therefore, not only the participation of teachers but also of every stakeholder who has influence on school processes either directly or indirectly is critical. Gutierrez, Field, Simmons, and Basile (2007) underscored that a pluralist stand of point and collaboration may form a more holistic approach to school achievement. They asserted that working with partner schools may be more useful in this regard. In this research, observing other schools was detected to be one of the success factors in strategic planning. However, in order for integrating such a practice into the planning processes, having a left-handed planner profile is needed as it places more importance on finding as well as developing strategies. Adams (2000) noted that new generation planners must focus on educational change and sustainability and give importance to building communication networks and advancing dialogue. However, it was seen that even the school administrators who had the characteristics of left-handed planner and catalyst profiles had limited communication networks. Slenning (2000) asserted that school administrators as catalysts ensured the transition of goals into school practices and that they provided agreement between the goals of national organizations and institutions and the ones of parents and unions. In this research, however, the catalyst profile emerged in the research did not have a large-scale area of action. Therefore, although the participating Turkish school administrators had some characteristics which fitted into the catalyst and left-handed profiles prioritizing innovation and creativity, they did not reflect these characteristics thoroughly.

Taken together, the results of the study indicated that the activities of school administrators in the strategic planning process are shaped based on their innovative standpoints and understandings regarding human relations. School administrators did not adhere to only a single planner profile, and they displayed the four planner profiles alternately when needed. However, the characteristics of the school administrators in the left-handed planner and catalyst profiles which are more innovative, creative and open to communication remained limited when compared to the ones specified in the relevant literature. This result revealed that the standpoints of school administrators regarding planning were mostly structured and bureaucratic. Therefore, prior to offering suggestions about what schools must do in the planning processes, it is required that school administrators' perspectives must be either changed or developed. School administrators receive training which is organized in the form of legal and structural seminar about strategic planning in Turkey. In order for school administrators to adopt more flexible and innovative perspectives in the planning processes, training organized as applied workshops towards developing the understandings regarding strategic thinking.

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A meta-analytic and thematic study concerning the effect of inquiry based instruction on learners' achievement[i]

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Abstract

This research aims at investigating the effect of Inquiry-Based instruction (IBI) on learners' academic achievement through meta-analytic and thematic approaches. In the meta-analytic study, 27 studies, which were implemented between 2000 and 2016 years, were examined. CMA and MetaWin statistical programs were used to calculate the effect sizes of these studies. The effect size (0.688) of the study indicates that the use of IBI has a positive effect on learners' achievement. To support findings of the meta-analytic study, a thematic study including 36 studies was applied. As a result of the analysis of the latter study, five themes, namely affective, cognitive and social domain themes, learning environment and negative aspects were generated. The former four themes demonstrated that IBI positively affects learners' achievement except the negative aspects theme. The negative theme stresses out that the effectiveness of IBI depends on how well the IBI activities are planned beforehand. If they are planned in detail, learners can know what to do in the activities. So, IBI can be used systematically in learning as an alternative method which can meet students' needs in technological era.

Keywords: *Meta-analysis, Thematic Analysis, Inquiry-Based Instruction, Achievement.*

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Introduction

Knowledge plays a crucial role in promoting countries to develop in technological, educational, socio-economic aspects. This is notable with the changes in technology and in the structure of employment which require citizens to get high level cognitive skills including the perception, interpretation, analyzing and transmission of confused knowledge (OECD, 2012). As a matter of fact, thinking and productive individuals can train these citizens who can meet their countries' needs. In this way, countries can sustain their entities in developed civilizations. Training thinking and productive individuals is possible with quality education systems. There are different approaches for quality issue in education. In other words, there is not a single definition for the quality issue in education and a number of items with regard to this issue can be compiled. To illustrate, learners' being very active and creative, acquiring knowledge through their experiences and reconstructing the knowledge by associating with their previous one (Osborn, 2013), teachers' guidance how to construct learners' knowledge, their encouragement to generate new ideas, their preparation for learning environment where different teaching methods and techniques are used (Eryaman & Bruce 2015; Ranjan & Rahman, 2014; Shaikh & Khoja, 2012), learners' cognitive, creative and affective development with their citizenship attitudes and values (Yıldırım, 2009) can determine the quality issue in education.

It is indicated in a number of studies that the methods used in the education systems are inadequate for the learners in the 21st century who encounter different needs (Alberta Education, 2010; Barron & Darling-Hammond, 2008; Friesen & Scott, 2013). According to Prensky (2001), "Our students have changed radically. Students today are no longer the people our educational system was designed to teach" (p.1). So, he coins them Digital Natives, who are "native speakers" of the digital language of technologies including computer, video game and the Internet. In another study, Gardner and Davis (2013) call today's youth app generation who are different from their previous generations with regard to identity, intimacy and imagination aspects. "App" derives from "application", a software program through which users conduct one or more operations on a mobile device. Applications enable users to access to newspapers, e-mails, games, bank accounts and so forth. At this point, Göka (2017) attracts our attention to the fact that this generation has different mental functions. He clarifies how their mentality works out indicating that "what will we do with schools in future? or are all these answers already on smart phones or will be on them sooner?" (p.118-119). These explanations indicate that today's youth or students do not face any difficulty in accessing knowledge. Knowledge is available for them by touching an app on a smart phone or write search item in search engine and click enter button and they can easily and fast access to knowledge. That is, knowledge is a touch or click away distance. So, it should be taken into account that learners have different learning styles.

When learners' different needs, interests in technological era are concerned, it is seen that teacher centred approach is not an effective method to enable them to acquire higher-level cognitive skills to find jobs in today's employment system. These skills require them to do research, inquiry and solve problems. They should reconstruct their acquired knowledge and come up with ideas to solve problems. As indicated by Serafin, Dostal and Havelka (2015) that the current social needs require an individual with the creative thinking to find the problems and solve them effectively. In this regard, Inquiry-Based Instruction (IBI) method can play a crucial role in ensuring them to develop their cognitive skills. This method is based on John Dewey's philosophy of education and it involves skills such as solving problem in learning process, conducting research and generating solutions (Erdem, 2006). As indicated by Dostal (2015) that "the inquiry-based instruction is an activity of a teacher and a pupil that is focused on the development of the knowledge, skills, and attitudes based on the active and relatively individual cognition of the reality by the pupil who learns on his/her own how to explore and explores." (p.79). This method starts with learners' curiosity on a particular issue with a willingness to do research. In this process, they collect, compile and analyze data with regard to the issue and then come to a conclusion or decision on this issue. In this method, learner is actively involved in exploring and constructing knowledge. That is, student and process of learning are in the core of IBI instruction (Aulls, Magon & Shore, 2015).

This study is concerned with revealing to what extent IBI has an impact on learners' grades in their courses. That is, it focuses on the relationship between the effect of the use of IBI in learning and learners' academic achievement. As a result of the literature review, it was found out that any study involving both meta-analytic and thematic approach has not been encountered to enlighten this relationship. So, the findings of the current study are hypothesized to make a valuable contribution to researchers, teachers, pre-service teachers, academic members responsible for training teachers, learners and designers for curriculum in education.

i. In the current study, questions that follow are answered:

ii. What is the effect size of the use of IBI in learning on learners' academic achievement?

iii. What are the participants' perceptions with regard to the use of IBI in learning?

Method

Research Design

This study mainly deals with investigating the effect of the process of inquiry based instruction (IBI), which can be implemented in every course, on learners' academic achievement. Namely, it identifies to what extent IBI method influences learners' achievement examining the studies conducted with regard to this method in national and international levels. For this purpose, quantitative

and qualitative techniques were applied to reveal more general and comprehensive findings to the related literature.

Data Collection and Analysis

In the quantitative part, meta-analytic method, a statistical technique to incorporate the findings of the separate studies with respect to similar issues (Crombie & Davies, 2009), was implemented. In this regard, a variety of databases including the Higher Education Council of Turkish Republic of National Thesis and Dissertation Centre, Google-Scholar, Ebscohost-Eric, Taylor and Francis Online Journals, ProQuest Dissertations-Theses, Web of Science and ScienceDirect were scanned to reach the studies related with IBI in national and international levels between 2000 and 2016 years. Of the databases, 840 studies were attained. A selection criteria was conducted to determine which studies should be included in the current one. Based on the criteria, the studies involving the effect of IBI on academic achievement and calculating the descriptive data for the effect sizes and those published in Turkish and English were taken into account. As a result of these criteria, 27 studies were included. Comprehensive Meta Analysis (CMA) and MetaWin programs were used to analyze these selected studies. The analysis were conducted according to fixed effects (FEM) and random effects models (REM) taking into account Cohen's (1992) classification level (0.20-0.50 small; 0.50-0.80 medium; over 0.80 large effect size). "Hedges' d" was used to calculate the effect sizes, whereas x^2 Q statistical value was used in the analysis (Higgins, Thompson, Deeks & Altman, 2003). Reliability among Assessors calculation formula [consensus / (consensus + dissensus) x 100] by Miles and Huberman (1994) was conducted to ensure the reliability outcome of the study. As a result of the calculation, it was found out to be 100%.

Thematic analysis was added in the study to support and complement the meta-analytic aspect of the study. As a result of the document review of the related literature, 36 studies with regard to IBI were included. These studies were coded into computer as: (178571-53). The former number (178571) in the parenthesis refers to the number of the thesis in the Higher Education Council of the Republic of Turkey and the latter number (53) indicates the page of the code in the related thesis. In the other codes Thesis (T) and number are used. Then, they were analyzed thematically. The content analysis was used to analyze the obtained data in the studies through Maxqda-11 program. In the analysis process, the expressions were coded and categorized under different themes. The coding of the studies was implemented by two raters. Agreement coefficient values (Cohen Kappa) for each theme were found and these values were taken into account to calculate the agreement among the raters (Viera & Garrett, 2005). Thus, the coefficient value for affective domain was found as .761, for cognitive domain as .789, for social domain as .833 and for IBL in learning process as .802 (App. 1). These values indicated that the coding was reliable.

Findings and Comments

In this section, the quantitative and qualitative findings related to the effect of IBI on learners' academic achievement were presented. In this way, all the findings were integrated with each other and complementary or different points were indicated.

The Quantitative Analysis Results of the Studies With Regard to IBI

Based on the selection criteria, 27 studies were included in the meta-analytic review. In Table 1, the frequency values for categorical independent variables of the studies, namely subject area and grade level, on the effect of IBI on learners' academic achievement were presented. When subject area variable is examined in Table 1, it is seen that most studies were implemented with the science course (n=10), and then science and technology (n=7), chemistry (n=2), physics (n=2), and mathematics (n=2) respectively. If the grade level variable is considered, it will be noticed that most of the studies were carried out with the students in lower-secondary school (n=14), upper-secondary school (n=5), elementary school (n=4), and then university (n=4). It is recognized that the studies with regard to IBI focus on sciences courses with the students in lower-secondary schools. It can be inferred that students are more likely to inquiry, do research, and explore in science courses.

Table 1: Frequency values of the studies regarding the effect of IBI on learners' academic achievement

Variables	(f)	Variables	(f)
Subject Field		*Grade Level*	
Science/ Chemistry/ Social Sciences	10/2/1	Elementary School	4
Physics/ Biology/ Mathematics	2/1/2	Lower-Secondary School	14
Science and Technology/ Visual Arts	7/1	Upper- Secondary School	5
Language and Arts/	1	University	4

When the studies' effect sizes with regard to academic achievement were figured out, according to FEM in Table 2, it was understood that the distribution of the effect sizes was heterogeneous as Q statistical value in homogenous test (131.02) exceeded the critical value (38.885) in 95% significance level from x^2 table with 26 degree of freedom. So, the academic achievement points of the 27 studies were examined through REM and the effect sizes of the points turned out to be 0.688. This value is at moderate level based on the effect size classification. This result indicates that the process of IBI has a positive effect on academic achievement.

Table 2: *The distribution of homogeneous values, average effect sizes and confidence intervals in the meta-analysis according to the effect modes with regard to the effect of IBI on learners' achievement*

Model Type	N	Z	P	Q	ES	95% Confidence Interval	
						Lower limit	Upper limit
FEM	27	15.989	0.000	131.019	0.729	0.640	0.819
REM	27	6.467	0,000	33.118	0.688	0.479	0.896

df:26

In Table 3, the statistical values of the studies based on IBI considering the grade level were given. With regard to *grade level*, four categories were created; primary (n=3), secondary (n=15), high school (*n*=4) and university (*n*=5). There wasn't a significant difference among these categories (Q_B= 3.87, *df*= 3, *p*>0.05). This means that scores of academic achievement do not show a change according to grade levels based on IBI. If the effect of IBI was examined in accordance with the academic achievement regarding grade level, the greatest effect size was in high school category (*ES*=1.02) and the lowest was in the case of university students on the other hand (*ES*=0.41).

Table 3: The Effect of the Studies on IBI Regarding the Grade Level

Mixed Effects Analysis	n	ES	SE	95% Confidence Interval		Test of Mean		Test of heterogeneity in effect size		
				Lower	Upper	Z-value	p-value	Q-value	df(Q)	p-value
Primary	3	0.82	0.24	0.34	1.30	3.36	0.00			
Secondary	15	0.70	0.14	0.42	0.97	4.88	0.00			
High	4	1.02	0.50	0.03	2.00	2.02	0.04			
University	5	0.41	0.14	0.14	0.69	2.94	0.00			
Tot. Betw								3.87	3	0.27
Overall	27	0.60	0.09	0.42	0.78	6.64	0.00			

Another analysis in the process was the IP of studies. When the analyses were carried out, a categorization was made and IP of the studies were grouped into five as 2-4, 5-6, 7-8, 9-18 weeks and unspecified IP. When the effect sizes of the IP groups of studies based on IBI was regarded, the lowest effect size was seen in the case of 9-18 week (ES=0.61), while the highest one in 7-8 week period (ES=1.47). But, there was not seen a statistical significant difference in terms of the groups effect (QB= 2.00, df= 4, p>0.05). This result indicated that effect sizes of the studies do not change according to IP.

Table 4: The Effect of the Studies on Creative Drama Regarding the IP

Mixed Effects Analysis	n	ES	SE	95 Confidence Interval		Test of Mean		Test of heterogeneity in effect size		
				Lower	Upper	Z-value	p-value	Q-value	df(Q)	p-value
2-4	7	0.76	0.19	0.39	1.12	4.09	0.00			
5-6	3	0.65	0.18	0.29	1.00	3.54	0.00			
7-8	6	1.47	0.60	0.30	2.65	2.46	0.01			
9-18	5	0.61	0.39	-0.15	1.37	1.57	0.12			
Unspecified	6	0.84	0.30	0.24	1.44	2.76	0.01			
Tot. Betw								2.00	4	0.73
Overall	27	0.74	0.11	0.52	0.96	6.58	0.00			

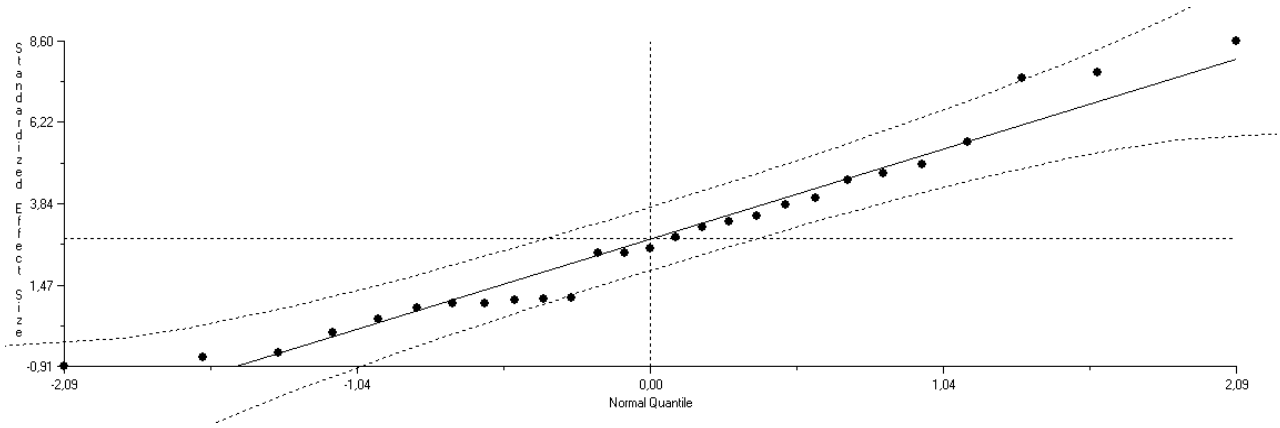

Figure 1: *Normal quantile plot*

The chart of the Normal Quantile Plot was presented in Figure 1 to see if the effect sizes of the studies were suitable for the normal distribution using the MetaWin program. Through the chart control, the reliability of the meta-analysis is tested. In Figure 1, the distribution of effect size indicated a normal process as any large deviations in the effect sizes didn't emerge. Based on the normal distribution of effect sizes, it can be stated that combining the studies in the meta-analytic process is statistically relevant. Moreover, in meta-analysis publication bias can be encountered and Rosenthal (1979) stated herein that if a number of studies which have null effect sizes are added to the analysis, the significant difference of the included studies can be cleared off. This calculated number is called as fail-safe Number (N_{FS}). For this study, the value of N_{FS} test is found as 2109.1. It means that 2109 studies are required to fall the overall effect size down to the level 0.01. Therefore, it can be stated that the related number of studies are highly in excess compared to the studies included and to the studies that can be reached. The results of the analysis are, thus can be expressed to be reliable.

The Qualitative Analysis Results of The Studies With Regard To IBI

In the context with the qualitative research, the participants' perceptions for the use of IBI in learning were studied to reveal what they think about the role of IBI in education. So, their perceptions were examined in different dimensions. As a consequence of the content analysis of the 36 studies in the qualitative research, five themes, namely affective domain, cognitive, social domain, learning environment and negative aspects were obtained. This section dwelled on these five themes and related codes. These codes are based on the participants' self-stated opinions in the studies included in the thematic studies. Furthermore, through the participants' quotations, the themes and codes were supported and enriched.

The participants' perceptions for the affective domain theme on with regard to the use of IBI in the learning process are presented in Figure 2. In terms of this theme, several codes such as different from previous expressions, appealing to a variety of senses, perceiving previous course boring, increasing students' self-confidence and perceiving the method interesting and useful were generated. These codes were formed considering the participants' expressions in the studies. To illustrate, it was quoted from 178571-60 coded study that "*...you can grasp lesson better conducting experiment. You can see subject matter...Instead of hearing, learning by seeing is more effective... learning becomes permanent.*" Another example from 298502-130 coded study is that *"The method is interesting and effective."* From the generated codes, it is understood that the participants' perceptions for the use of IBI method in learning is positive and encouraging.

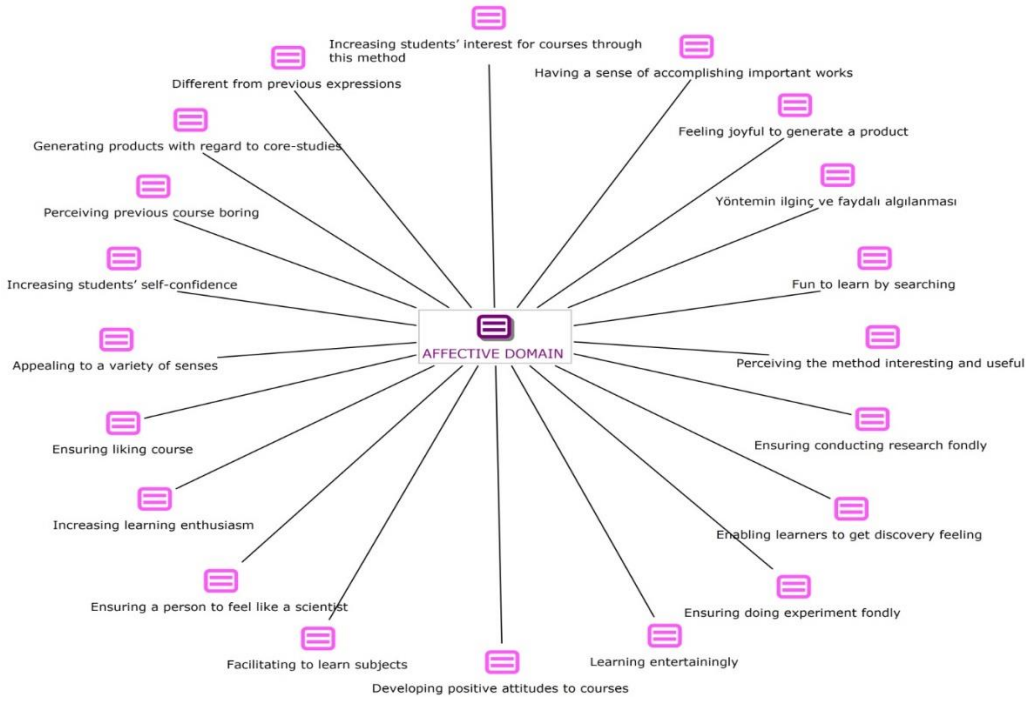

Figure 2: *Participants' perceptions for the affective domain theme with regard to the use of IBI in learning*

In Figure 3, the participants' perceptions for the cognitive domain theme on account of the use of IBI in the process of learning are provided. With regard to this theme, several codes including conducting research individually, exercises, figures and experiences facilitate to understand subjects, learning research methods, increasing comprehension and presenting authentic outputs were formed. For instance, it was cited from 214533-218 coded study that *"First of all, I thought that what a beautiful job we did. I thought how well we learnt. Besides, I have learnt research methods which I will use in future. That is, I thought we, indeed, got valuable acquisitions through the studies we conducted..."* Besides, a male participant stated in Out16-51 coded study that *"...simply attaining knowledge is not an ultimate goal. Rather, scientific way of thinking is more important for them to acquire."* These codes demonstrate that the use of IBI in learning has contributed to developing their cognitive domain when they are involved in learning process.

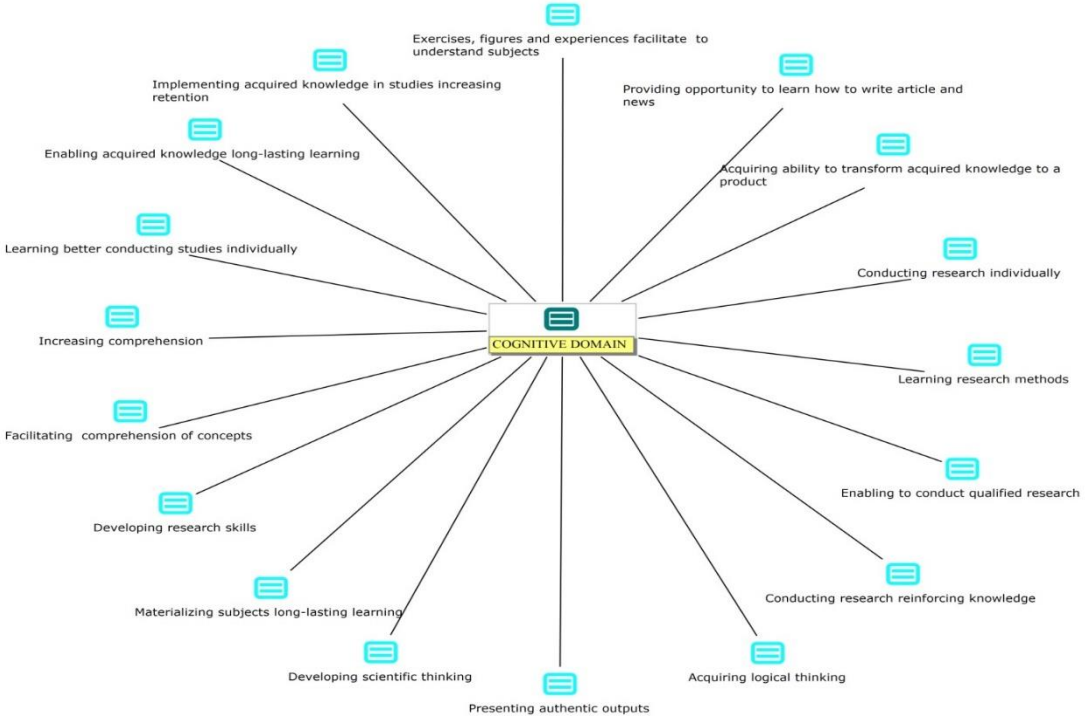

Figure 3: *Participants' perceptions for the cognitive domain theme with regard to the use of IBI in learning*

The participants' perceptions for the social domain theme on account of the use of IBI in the process of learning are displayed in Figure 4. With regard to this theme, several codes such as being happy to share in group works, promoting to acquire the ability to conduct research easily, reinforcing knowledge through activities and encouraging to show respect for others' thoughts were formed. For example, it was quoted from M47-251 coded study that "We are trying to find solutions for the research questions discussing with my friends in group

works." In the light with the generated codes, it can be claimed that the use of IBI is effective to conduct studies in group works, thereby increasing cooperation and collaboration with group members in learning process.

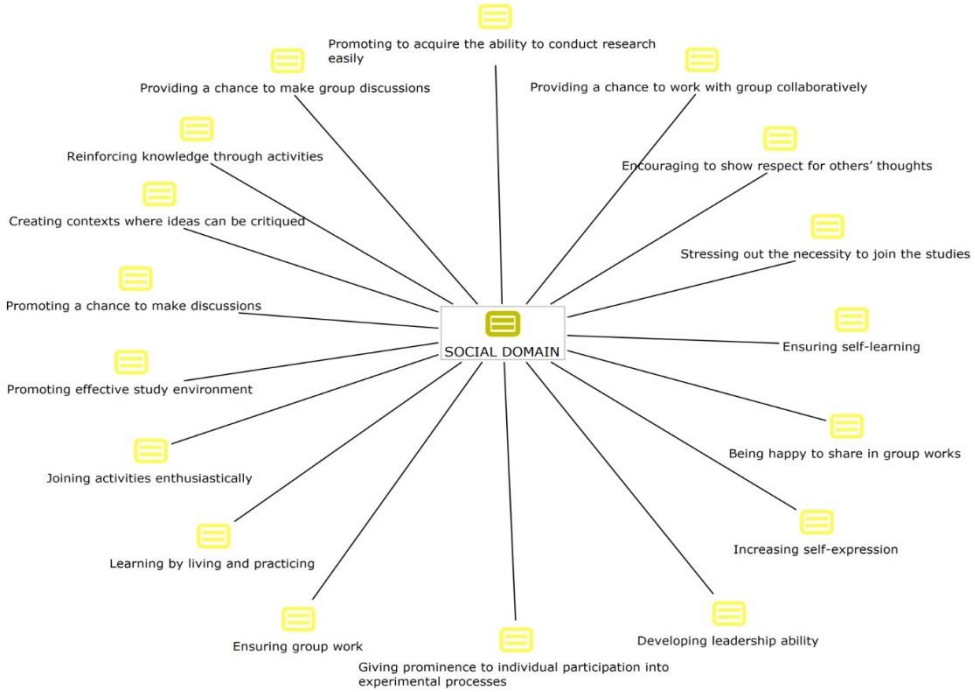

Figure 4: *Participants' perceptions for the social domain theme with regard to the use of IBI in learning*

The participants' perceptions for the learning environment and negative aspects themes and the related codes on account of the use of IBI in the learning process are presented in Figure 5. As for the learning environment theme, a number of codes such as conducting a number of experiments increasing retention, appealing to eyes and ears increasing long-lasting learning, visualization increasing retention and highly qualified experiments increasing learners' participation were formed. A participant from 356691-159 coded study cited that "...*When we peeled an apple, we saw that it got dark five or six minutes later. It was a good experiment."* Another example from 298502-130 coded study that "*It can be grasped easily...".* It can be said that the use of IBI in learning process creates a positive learning environment where learners can reinforce or consolidate what they learn.

Unlike the former themes, the participants point out negative issues in the use of IBI in learning. The formed codes for the negative aspects theme as follows: requiring hard and boring study, inadequate resources at home causing to dislike studying, a number of procedures available, depending on directions and person unavailable to clarify not understood subject matters. To illustrate, it was quoted from 345239-92 coded study that *"I don' like it because there are not enough*

resources at home." Another example from Out15-53 coded study is that "*Doing our own (procedure), we try to make procedures that we already like, have the information on. But, doing your procedures, we might not know...the information on it, so we can actually learn something from doing your procedures instead of making up our own that we already know."* These codes stress out that the effectiveness of IBI depends on how well the IBI activities are planned beforehand. If they are planned in detail, learners can know what to do in the activities.

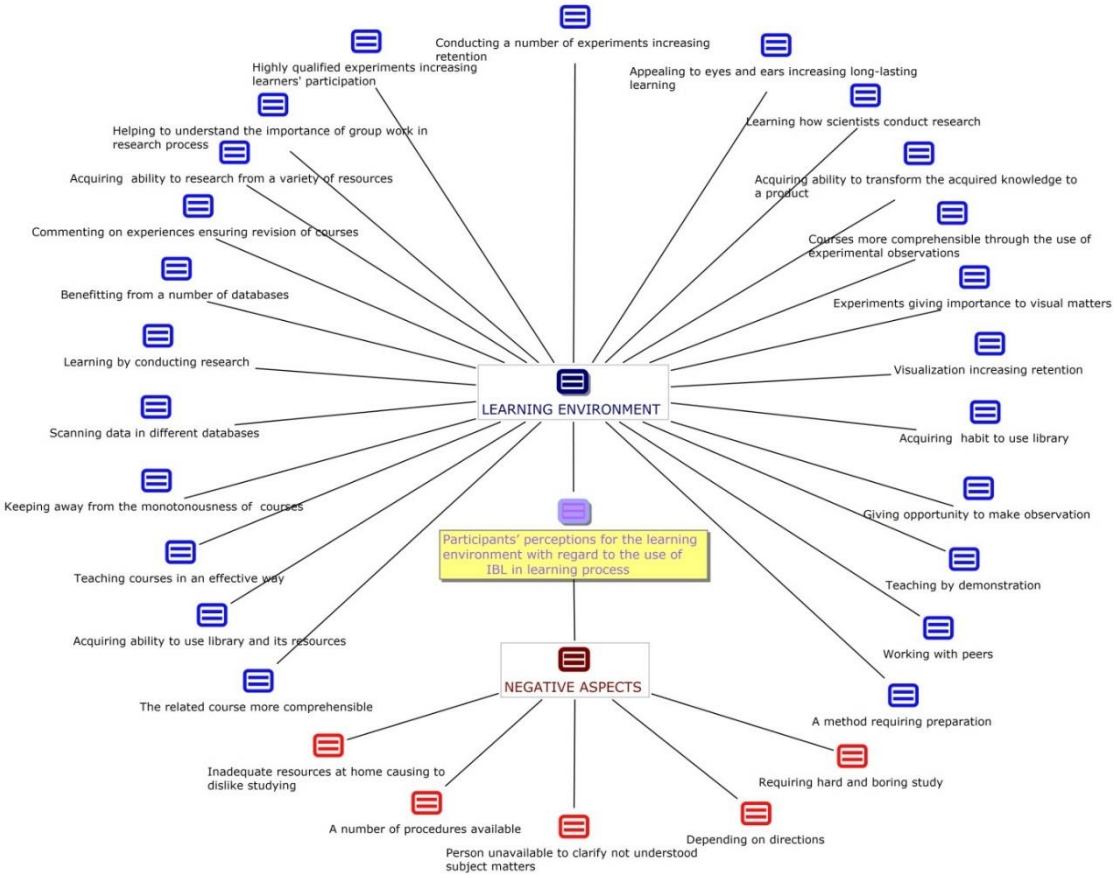

Figure 5: *Participants' perceptions for the learning environment and negative aspects themes with regard to the use of IBI in learning*

Limitations

The related study seemed to have certain limitations. First of all, the sample sizes in the meta-analytic studies are not large enough to generalize the quantitative findings. Second, in some studies the implementation period variable is not specified. More importantly, the contextual information with regard to the selection of experimental and control groups are not dealt in detailed way. To illustrate, where are the studies conducted? In urban or rural part of the country? In this respect, sample sizes of the studies could be increased to generalize the findings, the categorical independent variables such as implementation period could be dealt in detail, the contextual information concerning the selection of

the samples could be provided and more advanced statistical techniques such as multi-level analysis, structural equation modelling could be implemented to ensure more detailed analysis on account of the effect of IBI on learners' achievement in future studies.

Result and Discussion

The purpose of the current study is to understand the effect of IBI in learning process on learners' academic achievement. Meta-analytic and thematic study methods were conducted to evaluate the relationship between the effect of IBI and learners' achievement. As a result of the meta-analytic method, it was revealed that the effect size moderately influences learners' academic achievement. This finding is parallel with the study conducted by Çalışkan (2008) indicating that inquiry-based learning approach in social studies course has a positive impact on students' attitudes towards course, academic achievement and the degree of retention. Likewise, Sever (2012) found out that there is more explicit increase in the mean score of the students' academic achievement where IBI is conducted. So, there is a positive relationship between the use of IBI in learning process and their academic achievement.

As for the qualitative analysis of the thematic study, five themes, namely affective, cognitive and social domain themes, learning environment and negative aspects were formed. In the context with affective domain theme, it was understood that IBI increases learners' eagerness to learn and ensures to display positive attitude by increasing their interests in lesson. So, learners listen to their lessons and participate in their lessons with pleasure thereby increasing their academic achievement. With regard to cognitive domain theme, it can be indicated that IBI develops learners' research skills, increases their perception capacity, enhances their scientific thinking and enables their reasoning styles. At this point, the results of the current research are supported with the ones of the study conducted by Edelson, Gordin and Pea (1999) revealing that IBI makes significant contributions to developing scientific learning skills and combines new knowledge with the current knowledge by keeping motivation at optimum level. In terms of social domain theme, it was revealed that IBI develops learners' ability of expressing, increases their enthusiasm to study in group work, creates discussion and sharing setting and enables them to feel more social and be more active. As far as the learning environment domain theme is concerned, it was stated that the materials appealing to all sense organs, visual items and observation opportunity make leaning more meaningful and enjoyable. Although IBI has a variety of limitations such as requirement of preliminary preparation and involvement of different procedures, it can be suggested that it can be an effective and efficient learning method by overcoming these limitations. Unlike the negative aspects theme, it was revealed that the participants' perceptions for the use of IBI in learning process with regard to the other themes are positive and encouraging. This result is confirmed by Ramnarain (2014) that learners develop experimental skills and find science more enjoyable based on the teachers' perceptions for IBI.

Besides, it was understood in the result of the research conducted by Gormally, Brickman, Hallar and Arnstrong (2009) that students learning their lessons through IBI, have high self-confidence and strive more to participate in their lessons. This result overlaps with the results of the current research in relation to the affective and cognitive domain themes. Duran (2014) revealed in her doctoral dissertation that inquiry-based activities are enjoyable and students are more interested in the lessons involving these activities. Sever also (2012) found out that the students like doing experiments most in the experimental process and suggest that experiments be conducted in Science and Technology course. In the context with the learning environment theme, Poon, Tan and Tan (2009) indicated the impact of IBI on learning environment, which supports the results of the current research. The qualitative findings are seen to support the quantitative ones in the current study. On the other hand, the negative sides on account of the use of IBI in learning process were encountered. The findings show similar points in the study by Dostal (2015) indicating that the tasks concerning inquiry-based approach are frequently time-consuming. Therefore, the guided activities developed based on this approach play a significant effect on the students' academic achievement (Duran, 2014). Guided activities and well planning beforehand are thought to reduce the negative aspects in this approach.

As a result of the analysis of both the quantitative and the qualitative findings, IBI can be used systematically to increase learners' awareness, interests, attitudes and achievements in their courses. Taking into account how well they are competent to use technology, IBI activities supported with technology can be developed to increase their curiosity, thereby enabling them to acquire highly-ordered thinking skills. These activities should be enhanced with guided and well planned directions to decrease the negative sides of IBI in learning process. Academic members, researchers, decision makers, teachers can benefit from the findings of the current study to develop the curriculum for especially digital native learners.

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Appendix 1. Cohen Kappa Values of Themes in the Study

Affective Domain					Cognitive Domain					Social Domain					…IBL in Learning Process				
		K2					K2					K2					K2		
		+	-	Σ			+	-	Σ			+	-	Σ			+	-	Σ
K1	+	20	2	22	K1	+	17	2	19	K1	+	17	1	18	K1	+	28	3	31
	-	3	17	20		-	1	10	11		-	1	8	9		-	2	19	21
	Σ	23	19	42		Σ	18	12	30		Σ	18	9	27		Σ	30	22	52
Kappa: .761			p:.000		Kappa: .789			p:.000		Kappa: .833			p:.000		Kappa:.802			p:.000	

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Examining the Emotional Literacy Skill Levels of High School Students[i]

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Abstract

The aim of this study, which was carried out in the center of Eskişehir using the survey model of quantitative research, is to describe the emotional literacy skill levels of the high school students and analyze them based on different variables. The study was conducted with 1103 high school students who were selected using stratified sampling method and as the data collection tool, "Emotional Literacy Skill Scale" developed by the researcher was used. The analyses of the data indicated that the high school students in the center of Eskişehir generally have medium and high levels of emotional literacy. When the demographic variables are examined, there are statistically significant differences in the emotional literacy skill total scores based on the gender, school type, and Grade Point Average (GPA) variables.It is observed that female students and students with high GPAs have higher scores in many dimensions; thus, the schools, which accept students with high scores and where the female students are the majority, have better average in terms of emotional literacy skill.

Keywords: *Emotional Literacy, Emotional Intelligence, Social and Emotional Learning, Survey Method, High School.*

DOI: 10.29329/epasr.2018.143.4

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[i] This study was presented at Ankara University, International Congress on Education for Issues and Challenges and also was adapted from master's thesis.

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Introduction

Our society has been experiencing many changes and transformations in the race of adapting itself to rapidly changing and improving world. In the focus of these change and transformations, the student, who is expected to be both a promising citizen and a self-realized individual, forms the raw material of education (Özden, 2005). It is known that students' realizing of themselves, self-control abilities, motivation levels, social awareness, and success in the interpersonal relations are directly proportionate to the quality of the education they get (Eryaman, 2008). Behaviorist view on education, which was dominant until the recent years in Turkish education system, regarded students as mechanisms that could be controlled and shaped (Çelik, 2007). Therefore, it focused only on the success rate in tests and held a rote learning structure (Gedikoğlu, 2005). However, in the recent years it has been understood that academic success is not an important factor in the real life success (Tufan, 2011). As the time has passed, it was realized that students' affective characteristics and thoughts are ignored with the view of teaching is done to make the students informed (Özden, 2005); and as a result of this, it was observed that the number individuals who are indifferent or harmful to the environment they live in has increased (Haskan ve Yıldırım, 2012). After long years of ignorance, educators and researchers have oriented their interests into the concept of emotion and started to think upon this issue (Goldie, 2007). One of the concepts claimed in the international literature in terms of emotions oriented to demolishing or minimizing the current problems is the term emotional literacy skill.

The concept of emotional literacy was first used by Steiner in 1979 (Killick, 2006). Steiner defined emotional literacy skill as "to know your emotions in such a way to improve your personal power, quality of other people's and your life". In this definition, emotional literacy skill is regarded as a source of personal power. Emotional literacy is a term that includes an individual's competency of being aware of and understanding their own or others' emotional situations and of responding other people's emotions in order to help (Weare, 2004; Killick, 2006; Antidote, 2003). In its simplest sense, emotional literacy emphasizes that in the focus of the emotional problems individuals have, rather than problems related to feeling emotions, there are problems in expressing those feelings, in other words finding the appropriate explanation for the emotion that is felt. As already implied by Hein (2013), emotional literacy iss "the ability to express sentences composed of two words in which certain emotional expressions are used". For example "……. I feel".

In order to remove expression problems, knowledge and skill capacity in motivation, empathy, self-awareness, social skills, and self-regulation has an utmost importance. These topics constitute the chief points of emotional literacy, in other words, they reflect the main characteristic of it.

Emotional literacy skill in education states the sum of social, emotional and behavioral skills that are necessary in every aspect of an individual's family, school, and social life and emphasize

getting on well with others and effective learning. This skill is not only related to the learnings in educational process; it also supports the possibility of students' improvement of themselves both in cognitive and affective dimensions for the internalization and sustainability of the things they learn. Only in this way, individuals will take responsibility of their learning with the ease of expressing their feelings and will benefit from a curriculum enriched in terms of emotional view. Such a curriculum will help individuals analyze their emotions and affective features and facilitate the performing of these in the right place at the right time.

Andrew Moffat (2017) published a book on studying emotional literacy as "the schema of work". In this book, Moffat plans to upskill students emotional literacy skills through the teaching of 26 significant emotions. These feelings are: Anger and calmness, generosity and stinginess, happiness and sadness, courtesy and selfishness, thought and thoughtlessness, excitement and fear, pride and embarrassment, poverty and loneliness, shyness and self-confidence, love and exclusion, modesty and arrogance, courage and tension, acceptance and jealousy. With the thought of emotional training, positive increase in emotional literacy skills and well-being are observed and by the way the high level of emotional literacy is important in that it affects both the individual and the community (Uzan, 2018).

Emotional literacy skill contains a lot of factors supporting the need for bringing up individuals who can think analytically, are independent, have the problem-solution skill, can show empathy, which are also required for contemporary education. There is a need for realist research that can reveal the fact that individuals have the ability to understand the emotions, expressing skills, and clear and positive emotional awareness perception. In directing the future and making plans, individuals can be brought up with a characteristic which enable them to make determinations and reach self-content. Thanks to the education that helps reach this content, it is anticipated that effective communication will be developed and individual and social peace will be achieved. It is also predicted that as well as revealing emotional awareness, empathy, motivation, and social skills, with the emotional literacy skill which has the capacity to support these features (Weare, 2004; Antidote, 2003; Steiner, 2003), violence will be rehabilitated and emotions can be supported such as literacy types belonging to key skills.

Based on these occasions, when the positive features that emotional literacy can provide are born in mind, it is clearly seen that there is neither a settlement in our country that can assist the development of emotional literacy skill nor an abundance of studies focusing on this issue in the national literature. With reference to this lack, this study aims to identify the emotional literacy skill level of high school students and evaluate emotional literacy components in terms of certain variables.

In this study, which is considered to serve as a model to describe the present situation and thus contribute to the field, answers for the following questions will be sought:

1. How does the emotional literacy skill level of the high school students range?
2. Do the emotional literacy skill levels of the high school students differ significantly with reference to their
    a. gender,
    b. GPA,
    c. school type?

Method

This study was constructed using quantitative research method and techniques. The study, aiming to describe the emotional literacy level of the high school students, used the survey method. This model is useful in identifying special and detailed views of the characteristic structures of people towards various topics in large types of research, getting their views and expectations, and wanting them to classify themselves (Wolfer, 2006). The population of the study consists of 35936 high school students studying in state high schools in the center of Eskişehir. Since reaching each person in study population would be difficult for the researcher in terms of time and costs, sampling method was used. Based on the 90% confidence interval and 0.5 margin of error, 1103 high school students who were reached was determined to be enough. Therefore, using the stratified sampling method, the sampling of the study consisted of high school students selected according to the number that would be enough to represent different school types. The schools were grouped as Science High School, Anatolian Teacher Training High School, Anatolian High School, Girls' Vocational School, Industrial Vocational High School, Vocational High School of Tourism, and Anatolian Technical High School. As the research model is survey model, in the name of a possible generalization, students of each grade (9th, 10th, 11th, 12th) representing each grade level from these groups were randomly selected. Demographic information related to the participants is presented in Table 1 below.

Table 1. Demographic Information Related to Student Participants

Options	Group	*N*	%
Gender	Female	641	58.1
	Male	462	41.9
	Total	1103	100.0
GPA	Low	315	.6
	Intermediate	504	8.9
	High	284	36.9
	Total	1103	33.7
High School Type	Science High School	178	16.1
	Anatolian Teacher Training High School	93	8.4
	Anatolian High School	421	38.2
	Girls' Vocational School	110	10.0
	Industrial Vocational High School	70	6.3
	Vocational High School of Tourism	54	4.9
	Anatolian Technical High School	177	16.0
	Total	1103	100.0

When the data regarding the students are examined, it is seen that 58.1% of them are female while 41.9% of them are male.mIn terms of their GPA in the last term, it is seen that 29% of the students have low, 45% of them have intermediate, and 26% of them have high levels of academic success. When the table showing the distribution of students according to school types, it is observed that 16.1% of the participants are Science High School students, 8.4% of the participants are Anatolian Teacher Training High School students, 38.2% of the participants are Anatolian High School students, 10% of the participants are Girls' Vocational School students, 6.3% of the participants are Industrial Vocational High School students, 4.9% of the participants are Vocational High School of Tourism students, 16% of the participants are Anatolian Technical High School students.

Data Collection Tool

In this study, first of all "Emotional Literacy Skill Scale" was decided to be prepared by the researcher for the aim and scope of the research. As a first step, the relevant literature was reviewed and emotional literacy models were examined. In these models, the most repeated characteristics that an emotional literate person should have are "motivation, showing empathy, emotional awareness, self-regulation, and social skills" (Weare, 2004;

Killick, 2006; Antidote, 2003; Steiner, 2003). Items referring to the features that belong to these dimensions were written in five dimensions, examined one by one, and overlapping items were removed. In order to verify the content validity, the draft form was analyzed by five faculty members who work at the Faculty of Education with at least a Ph.D. degree. Three more items were added to the scale with the suggestions of a faculty member after the reviewing process and the draft form was finalized with 23 items in total.

Using the draft form, a pilot study was carried out with 373 students. As a result of Kaiser Meyer Oklin = .78 and Bartlet ($p < .01$) test analyses gathered through the collected data, it was understood that exploratory factor analysis could be applied to the collected data. With the exploratory factor analysis done by using Varimax rotation method, the analysis was repeated several times by removing 2 items which loaded to more than one factor and whose factor loads were below than .30. After the removal of the 2 items in the Self-Regulation Dimension and realizing that the other 2 remaining items could be related to Motivation Dimension, the scale consisted of 4 dimensions. As an explanation to this, students in the sampling are thought to associate the valid items about the self-regulation strategies with their motivational processes. Hence, these items were analyzed in the Motivation Dimension. The factors are named as "Motivation, Empathy, Emotional Awareness, and Social Skills". With its final version of 21 items, it was detected that the factor loads of the items varied between .721 and .447. Besides, the eigenvalues of the factors vary between 1.245 and 4.037 and the total variance that the 4 factors explained was 41%. The literature regarding education states that in the factor analysis, if the percentage of the total variance that the factors explain over is 40%, it can be acceptable (Kline, 1994; as cited in Baloğlu and Karadağ, 2008; Kurt, 2001).

In this study, also Confirmatory Factor Analysis was applied to look at the factorial structure of the factor structure. Confirmatory Factor Analysis is conducted to determine the factors and structure of a previous research and its theory (Rasch, Kubinger and Yanagida, 2011; Keith, 2006). The following table shows the parameters for the Confirmatory Factor Analysis.

Table 2. The adjustment parameters of the confirmatory factor analysis

Parameter Adjustment	Coefficient
GFI	0.95
AGFI	0.94
PGFI	0.75
CFI	0.90
RMSEA	0.04
df	183
$\chi 2$	574.72
$\chi 2$/df	3.13

The $\chi 2$ / df ratio calculated according to the confirmatory factor analysis results is 3.13. The Chi Square ($\chi 2$ = 574.72) test is sensitive to the sample size and when the sample size is greater than 200, the results are generally not reliable. Since the number of participants is 373, it is considered that this value is derived from the sample size. Other fit indices of the model [CFI=0.90, GFI=0.95, AGFI=0.94, PGFI=0.75, RMSEA=0.04] also suggest that the recommended model for the scale is appropriate (Keith, 2006; Hair, Black, Babin and Anderson, 2010).

In the next step, in order to define the item discrimination, the scores were sorted in descending order and two groups - 27% lower group and 27% upper group – were formed. As a result of the independent t-test scores applied to these groups, the difference between upper and lower groups were found as significant ($p< .01$). Therefore, the significant difference between the upper and lower score obtained from the scale shows that the scale is discriminant in testing the targeted feature.

Finally, a reliability test was applied to the scale that consists of 4 factors and 21 items. It was found that the Emotional Literacy Skill Scale had .78 Cronbach Alpha value. It has the condition that the reliability of an ideal scale should be over .70 (DeVellis, 2012; Bryman, 2008). After the reliability analyses the scale consisting of 4 factors and 21 items and prepared in 4 likert-type design was obtained.

Analysis of Data

The data analysis started after confirmatory factor analysis and a repeated reliability analysis was carried out to 1103 forms. The obtained data was found as appropriate and before analyzing the data, in order to see whether the data distributed normally, frequency and graphic distributions were analyzed, and skewness and kurtosis values and homogeneity tests were applied. According the results of these tests and calculations, it was detected that the data carry an appropriate feature for parametric tests.

In the analysis of the first research question, in order to describe the general situation of all the participants of the study, frequency and percentage calculations were used. In the analysis of the second research question, since the variable of "gender" as a part of students' demographic information has 2 categories, Independent Samples T-test was used. In addition, for such variables as "GPA" and "school type" which has 3 or more categories, one-way analysis of variance (ANOVA) was used. At the end of the analysis, in the case of a significant difference, Tukey HSD multiple comparison test was applied in order to detect which group is the source of the difference. In interpreting the results of the statistical calculations, 0.5 was accepted as the significance level.

Results

The findings obtained as a result of the analyses carried out in association with the scope and research questions of the study are as follows;

The Distribution of High School Students Based on Their Emotional Literacy Skill Levels

In the analysis of the distribution of the high school students based on their emotional literacy skill levels, the scores they got from Emotional Literacy Skill Scale are examined. The emotional literacy skill scores were summed and their distribution as "low, medium, and high" categories, which had been defined previously, are presented as frequency and percentage in Table 2 below;

Table 2. Students' Emotional Literacy Skill Level Frequency and Percentage Values

Emotional Literacy Skill Level	Frequency (f)	Percentage (%)
Low Level	7	0.6
Medium Level	481	43.6
High Level	615	55.8
Total	1.103	100.0

When the table above is examined, it is seen that the majority of the high school students have a high level of emotional literacy (55.8%). Secondly, the students have a medium level of emotional literacy with a percentage of 43.6%. Lastly, few of the students have a low level of emotional literacy (0.6%).

The Evaluation of High School Students' Emotional Literacy Skill Levels Based on Demographic Variables

The high school students' emotional literacy skill levels were examined whether they varied in terms of the variables of gender, GPA, and school type. The values regarding this examination are as follows:

Gender

Through the research questions of the study, the results of the analysis whether the emotional literacy skill level scores of the high school students have difference according to their gender are presented in Table 3 below.

Table 3. The Comparison Between Gender and Emotional Literacy Skill Total & Subscale Scores

Subscales	Gender	n	X	SS	t	P
Emotional Literacy S. Total Score	Female	641	66.32	7.33	6.508	.000
	Male	462	63.35	7.67		
1- Motivation	Female	641	22.16	3.24	2.347	0.19
	Male	462	21.68	3.33		
2- Empathy	Female	641	20.27	2.80	8.909	0.00
	Male	462	18.64	3.14		
3- Emotional Awareness	Female	641	15.16	2.67	4.033	0.00
	Male	462	14.49	2.74		
4- Social Skills	Female	641	8.72	2.24	1.426	.154
	Male	462	8.52	2.22		
SD= 1101						

When the Emotional Literacy Skill Total Scores are examined, while the female students have a high level of emotional literacy ($\overline{X}$=66.32), male students are at medium level with their scores ($\overline{X}$=63.35). The t-test analysis showed that there is a significant difference between the genders of the students in favor of the female students [t(1101)= 6.508, p=.000]. In the Motivation subscale, the female students are highly motivated($\overline{X}$=22.16), whereas male students have medium level of motivation ($\overline{X}$=20.27). In addition to this result, according to the t-test analysis, it is seen that the female students differ significantly from male students [t(1101)= 2.347, p=.019]. When the scores of the students in the Empathy subscale are examined, it is observed that there is a significant difference between the genders of the students in favor of the female students [t(1101)= 8.909, p=.000]. It was also detected that the female students have a high level of empathy ($\overline{X}$=20.27), and the male students have medium level of empathy ($\overline{X}$=18.64). The analysis of the Emotional Awareness Scores showed that both the female students ($\overline{X}$=15.16) and the male students are at the medium level ($\overline{X}$=14.49). When the t-test scores are examined, it is found that there is a significant difference between the genders of the students in favor of the female students [t(1101)=4.033, p=.000]. Based on the scores of Social Skills, it is observed that there is no significant difference between the genders of the students [t(1101)= 1.426, p=.154]. It was also detected that both the female students ($\overline{X}$=8.72) and the male students are at the medium level ($\overline{X}$=8.52).

GPA (Grade Point Average)

The analysis of the emotional literacy skill total and subscale scores of the high school students based on the variable of their GPA are presented in Table 4 below.

Table 4. The Analyses of the Emotional Literacy Skill Total and Subscale Scores Based on the Variable of GPA

	The Values of n, X and SS				ANOVA Results					
Subscale	**Level**	**N**	**X**	**S.D.**	**S.V.**	**S.S.**	**D.F.**	**M.S.**	**F**	**p**
1–Emotional Literacy Total Score	Low	315	61.80	8.23	B. Groups	12129.47	2	6064.73	128.68	0.00
	Medium	504	64.09	5.92	In Group	51843.19	1100	47.13		
	High	284	70.47	6.76	Total	63972.66	1102			
	Total	1103	65.08	7.62						
2- Motivation	Low	315	21.10	3.65	B. Groups	897.08	2	448.54	44.74	0.00
	Medium	504	21.67	2.98	In Group	11028.40	1100	10.03		
	High	284	23.44	2.90	Total	11925.48	1102			
	Total	1103	21.96	3.29						
3–Empathy	Low	315	18.42	3.29	B. Groups	1179.26	2	589.63	70.88	0.00
	Medium	504	19.42	2.74	In Group	9150.78	1100	8.32		
	High	284	21.20	2.64	Total	10330.04	1102			
	Total	1103	19.59	3.06						
4–Emotional Awareness	Low	315	14.19	2.82	B. Groups	759.09	2	379.55	56.36	0.00
	Medium	504	14.54	2.54	In Group	7408.05	1100	6.73		
	High	284	16.27	2.41	Total	8167.15	1102			
	Total	1103	14.88	2.72						
5–Social Skills	Low	315	8.09	2.27	B. Groups	352.28	2	176.14	37.61	0.00
	Medium	504	8.46	2.17	In Group	5151.55	1100	4.68		
	High	284	9.56	2.04	Total	5503.83	1102			
	Total	1103	8.64	2.23						

In the results of ANOVA, it is seen that there is a significant difference between the GPAs of the participants and their emotional literacy skill scores [F(2,1100) = 128.68, p=.000). According to the results of the Tukey Test (p=0.00), which was carried out to see in which range of GPA the differences are, it was observed that the students whose GPAs are low ($\overline{X}$=61.80) differ significantly from those whose GPAs are medium ($\overline{X}$=64.09) and high ($\overline{X}$=70.47). According to the results of ANOVA, there is a significant difference between the scores the participants get from the Motivation dimension and their last term GPA [F(2, 1100) = 44.74, p=.000). The results of the Tukey Test

(p=0.00), which was applied to see in which range the differences are, indicated that students whose GPAs are high ($\overline{X}$=23.44) differ significantly from those whose GPAs are medium ($\overline{X}$ =21.67) and low ($\overline{X}$=21.10). The analyses of ANOVA also showed that there is a significant difference between the scores the participants get from the Motivation dimension and their last term GPA [F(2, 1100) = 70.88 p=.000). The results of the Tukey Test (p=0.00), carried out to see in which range the differences are, point out that there is a significant difference between the scores of the students whose GPAs are high ($\overline{X}$=21.20) and those of whose GPAs are medium ($\overline{X}$=19.42) and low ($\overline{X}$=18.42). This result reveals that the students whose GPAs are high use the skill of empathy more efficiently. The scores of the participants in Emotional Awareness Dimension differ significantly based on their last term GPA according to results of ANOVA [F(2,1100) = 56.36, p=.000). Tukey Test was applied in order to see in which range the differences are and it indicated that there is a significant difference between students with high GPA ($\overline{X}$= 16.27) and those with medium ($\overline{X}$=14.54) and low ($\overline{X}$=14.19) GPA. The findings demonstrate that there is a positive correlation between academic success and emotional awareness level. According to the results of ANOVA, a significant difference between the last term GPAs of the students and their scores they got from social skill dimension is found. It is observed that the students whose GPAs are low ($\overline{X}$=8.09) differ significantly from those with medium ($\overline{X}$=8.46) and high ($\overline{X}$= 9.56).

This indicates that success is directly proportional to the level of emotional literacy. It can be said that it may contribute to motivation and self-sufficiency of the students.

School Type

The analysis of the emotional literacy skill total and subscale scores of the high school students based on the variable of school type are presented in Table 4 below.

Table 5. The Analyses of the Emotional Literacy Skill Total and Subscale Scores Based on the Variable of School Type

The Values of n, X and SS					ANOVA Results					
Subscale	**Level**	**N**	**X**	**S.D.**	**S.V.**	**S.S.**	**D.F.**	**M.S.**	**F**	**p**
1– Emotional Literacy Total Score	Science H.S.	178	63.39	8.42	B. Groups	1423.51	6	237.25	4.16	0.00
	Teacher H.S.	93	64.48	7.66	In Group	62549.14	1096	57.07		
	Anatolian H.S.	421	66.04	6.83	Total	63972.66	1102			
	Girls' Voc. H.S.	110	66.21	7.83						
	Industrial Voc. H.S.	70	62.87	6.50						
	Tourism Voc. H.S.	54	65.46	7.07						
	A. Technical H.S.	177	64.89	8.52						

	Total	1103	65.08	7.62						
2- Motivation	Science H.S.	178	21.39	3.77	B. Groups	133.04	6	22.17	2.06	0.55
	Teacher H.S.	93	21.60	3.11	In Group	11792.43	1096	10.76		
	Anatolian H.S.	421	22.10	3.02	Total	11925.48	1102			
	Girls' Voc. H.S.	110	22.55	3.42						
	Industrial Voc. H.S.	70	21.67	2.58						
	Tourism Voc. H.S.	54	21.83	3.54						
	A. Technical H.S.	177	22.20	3.50						
	Total	1103	21.96	3.29						
3– Empathy	Science H.S.	178	19.08	3.25	B. Groups	295.013	6	49.169	5.370	.000
	Teacher H.S.	93	19.39	3.04	In Group	10035.025	1096	9.156		
	Anatolian H.S.	421	20.00	2.90	Total	10330.038	1102			
	Girls' Voc. H.S.	110	20.40	2.88						
	Industrial Voc. H.S.	70	18.72	2.66						
	Tourism Voc. H.S.	54	19.64	2.65						
	A. Technical H.S.	177	19.05	3.35						
	Total	1103	19.59	3.06						
4– Emotional Awareness	Science H.S.	178	14.63	2.87	B. Groups	60.54	6	10.09	1.36	.226
	Teacher H.S.	93	14.96	2.36	In Group	8106.60	1096	7.40		
	Anatolian H.S.	421	15.02	2.60	Total	8167.15	1102			
	Girls' Voc. H.S.	110	14.74	2.79						
	Industrial Voc. H.S.	70	14.23	2.66						
	Tourism Voc. H.S.	54	15.19	2.97						
	A. Technical H.S.	177	15.03	2.92						
	Total	1103	14.88	2.72						
5– Social Skills	Science H.S.	178	8.27	2.19	B. Groups	71.429	6	11.905	2.402	0.26
	Teacher H.S.	93	8.52	2.23	In Group	5432.398	1096	4.957		
	Anatolian H.S.	421	8.91	2.26	Total	5503.828	1102			
	Girls' Voc. H.S.	110	8.51	2.08						
	Industrial Voc. H.S.	70	8.24	2.42						
	Tourism Voc. H.S.	54	8.79	2.19						
	A. Technical H.S.	177	8.59	2.16						
	Total	1103	8.64	2.23						

In the results of ANOVA, it is seen that there is a significant difference between the school types of the participants and their emotional literacy skill total scores [F(6,1096) = 4.16, p=.000). According to the results of the Tukey Test (p=0.00), which was carried out to see in which range the differences are, there are significant differences between the students of (p=0.05);

- Science High School ($\bar{X}$=63.39) and Anatolian High School ($\bar{X}$=66.04) and Girls' Vocational High School ($\bar{X}$=66.21),
- Industrial Vocational High School ($\bar{X}$=62.87) and Anatolian High School ($\bar{X}$=66.21).

Similarly, there is a significant difference between the school types of the participants and their scores they get from the empathy subscale [F(6,1096) = 5.370, p=.000). According to the results of the Tukey Test (p=0.05), which was carried out to see in which range the differences are, indicate that

- The scores of the Science High School students ($\bar{X}$=19.08) and the scores of the students of Anatolian High School ($\bar{X}$=20.00) and Girls' Vocational High School ($\bar{X}$=20.40),
- The scores of the Anatolian High School students ($\bar{X}$=20.00)and the scores of the students of Science High School ($\bar{X}$=19.08), Industrial Vocational High School ($\bar{X}$=18.72), and Anatolian Technical High School ($\bar{X}$=19.05),
- The scores of the students of Girls' Vocational High School ($\bar{X}$=20.40)) and the scores of the students of Science High School students ($\bar{X}$=19.08, Industrial Vocational High School ($\bar{X}$=18.72), and Anatolian Technical High School ($\bar{X}$=19.05) differ significantly from each other.

There is also a significant difference between the students' scores in social skills dimension and their school type [F(6,1096) = 2.402, p=.026). The results of the Tukey Test, which was carried out to see in which range the differences are, indicate that there is a significant difference between the scores of the Science High School students and those of the students of Anatolian High School (p=0.05).

Another finding of the study is that there is no significant difference between the scores that the students get from the motivation [F(6, 1096) = 2.06, p= 0.55)] and the emotional awareness F(6, 1096) = 1.36, p= .226)] dimensions based on their school type.

These data shows that the achievements of the students in the schools and the gender differences effect much the emotional literacy skills of the students. It was observed that the students of Vocational High School and Anatolian High School had higher emotional literacy scores than the other secondary school students in comparing the total scores of emotional literacy and subscale scores of secondary students compared to high school students. It is clear that these two schools are the result of the fact that the number of students in terms of number is dominated by girl students. However, the fact that the highest average in the social skills subscale belongs to Anatolian High School and the

lowest average belongs to the Industrial Vocational High School students shows that the students have positive characteristics in social skills related to their success status. The masses addressed by these two schools are thought to be influenced by the socio-cultural relations of the environment and the students.

Discussion, Conclusion and Suggestions

Discussion and Conclusion

This study seeks to address the emotional literacy levels of students. Emotional literacy generally refers to utilize skills such as empathy, self-regulation, self-motivation, social skills, emotional awareness, emotional regulation, problem-solving. Emotional literacy skill contributes positively to students' academic achievements, relations with others, mental health, social skills, attitudes towards school and sense of self, etc. (Kandemir ve Dündar, 2008). The results achieved in the context of students' emotional literacy skill levels are presented below.

The results of the study revealed that most of the students have high levels of emotional literacy skills. That is a critical and important result as it emphasizes that the motivation, empathy, emotional awareness and social skills levels of the majority of the students participated in the study are appreciable and above intermediate and low levels. Rae (2012) highlights that students who have successful emotional literacy skills also have skills of sophisticated self-control, efficient listening proficiencies, active and effective engagement in the class, using emotional vocabulary, naming his/her emotions perfectly, showing anger management skills and having positive sense of self. It is assumed that over half of the respondents demonstrate such basic and fundamental skills but that result need to be interpreted with caution ant attention because the students were to answer the item individually about themselves, so they may have chosen the positive options. Also the research was run in the central districts of a developed city, the intensity of opportunities may be one of the positive effects in the results.

According to the comparisons made between students' genders, there found to be statistically significant difference between the scores in favor of girls. The results of girls' being more motivated and having empathic concern were expected as the girls have a natural tendency to address their feelings more than boys. Also this result is in complete agreement with an earlier study which focused on the high school students' levels of showing empathy and it outlined that girls have higher points than the boys in apologizing behaviors (Şenol, Akça, & Çümen, 2012). Similarly, in another study, Alver (2005) pointed out that girls have higher levels of empathy skills than boys. In addition to empathy skills, in their study examining motivation skills of students, Yaman and Dede (2007) stated that girls were more motivated than the boys in specific motivational areas. On the other hand,

Korkmaz, Şahin, Kahraman and Öztürk (2001) could not find significant differences between girls and boys in their study of empathy.

As for the analyses made upon students' GPA, it was determined that students with high averages differentiated in a statistically significant way from those who got medium and low averages. This result has strengthened the hypothesis that emotional literacy skill is directly proportionate to the success. Remarkably, this result is related to the motivation and self-efficacy of the students. This fits well with the work of Gumora ve Arsenio (2002) on emotionality and school performance emphasizing that emotional regulation affines with students' GPA. Other works on relationship between emotional intelligence and school success demonstrated that the students with higher emotional intelligence capacity succeed in their school subjects academically (Agnoli et al, 2012; Yazıcı, Seyis ve Altun, 2011). Besides, these results differ slightly from those who inserted that there was not a connection between academic success and emotions (Newsome, Day and Catano, 2000; Reiff et al, 2001).

In terms of the comparisons made according to students' school types, Girls' Vocational High School and Anatolian High School have differentiated statistically from other school types and got higher levels of emotional literacy skills. Given that two schools have girl students predominantly, it is assumed that gender has effected this result of the study in a way. However, in social skills dimension the highest point average belongs to Anatolian High school and the lowest point average belongs to Industrial Vocational High School. That result supports that success associates positively with social skills of the students.

Suggestions

It is necessary to place themes oriented to improve emotional literacy skill in the curricula and this is highly recommended. It is considered that some support programs developed based on motivation, empathy, emotional awareness, and social skills will contribute to use of the skills in terms of the components of emotional literacy in real life and to transfer them to the school life. Training the administrators, teachers, and the general staff in schools through support programs will reinforce the sense of setting that is enriched in terms of emotional environment.

In the activities, which will be prepared regarding the psychological and physiological changes in the high school era, the needs and interests of the male students should be considered and they must be encouraged to reach the aforementioned skills. Besides, in such schools as Technical High School and Industrial Vocational High School where the majority of the students is male, the skills related to emotional literacy should be placed in formal and hidden curricula.

Bearing the fact that emotional literacy and the school performance are directly related, it is suggested that performance activities that improve students' productivity processes and support their exchange of emotions must be placed in the classrooms.

It is important that the emotional literacy skill education expands not only individually but also in all the aspects of the social life of the learning process with all its components; thus, it is of utmost necessity that parents should be a part of the curricula. Through the special programs developed for the families of the students, a step to reach a healthier and more productive adult model will be provided.

This study is limited to the self-evaluations of the students' emotional literacy skill levels. Further studies, which include teacher-student and parent-teacher evaluations, might result in achieving richer findings.

Besides, this study is based on quantitative data. It is considered that in the further studies, using qualitative methods such as observing the behavior or studies that provide long term and detailed results (e.g. observation, case study, interviews) will be effective.

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Evaluation of Pre-Service Teachers' Perceptions for Teaching Practice Course

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Abstract

Pre-service teachers gain experience, positive and negative attitudes towards teaching-learning process, school administration, teacher, student and even school in teaching practice course in pre-service teacher training programs. The purpose of this research was to identify pre-service teachers' perceptions of teaching practice course. Case study research design was used in this qualitative research method. The study group of the research comprised of 42 pre-service teachers who took teaching training course in 2014-2015 academic year. The purposeful sampling method was used to determine the study group. The data was derived from the semi-structured interview form. Content analysis was employed to analyze the data. The themes were generated as a result of the analysis. The results of the research indicate that pre-service teachers gain experience in teaching profession and be self-confident, learn to be patient and use materials and acquire the importance of communication. On the other hand, they notice some negative cases such as teachers' failures in classroom management, lack of materials, school administrations' negative attitudes and behaviors and teachers' being passive in discipline matters. To overcome these negative cases, suggestions were put forward.

Keywords: *Pre-service teachers, teaching practice and school*

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Introduction

It is known that teachers undertake significant roles in fulfilling educational objectives. Teachers' roles in teaching-learning process increase. The issue for teacher training should be studied on account of several reasons. First of all, teachers, school administrators, parents and politicians' complaints with regard to teaching practices become evident. Secondly, a number of researches have been conducted in the last years of the 21st century and reasonable justifications for some complaints in relation to teacher training have been put forward. The third one is that developments in the field of information happen, new meanings to information are ascribed and new concepts for teaching and learning emerge (Korthagen, Loughran & Russell, 2006; Eryaman, 2007). The question how to improve teacher training becomes more complicated in the increasingly sophisticated world and in a fast changing world (Parker, Murray-Orr, Mitton-Kukner, Griffin & Pushor, 2017). As education is regarded one of the most important factors in students' achievement in a number of countries, teacher training has immediately occupied the agenda for education policy (Darling-Hammond, 2017).

While teacher is a source of information and sole conveyer of information in a traditional sense (YÖK, 1998), he/she is considered to undertake new roles such as coordinator, facilitator and advisor for source nowadays (Özden, 2005). The development of the expected roles from teachers makes especially teacher training necessary. A balance between theoretical and practical aspects in the curriculum for teacher training need to be organized. Teaching practice course is one of the courses to serve this purpose in teacher training.

Teaching practice course enables pre-service teachers to acquire teaching skills in their subject matter in their level of education in real classroom setting and teach a particular course or courses in a planned order and discuss and evaluate the activities which occur in classroom setting (MEB, 1998). Every profession has a particular training process. Some professions are based on theoretical information, whereas others require theoretical and practical information to be applied (Kale, 2011). Pre-service teachers can have opportunity to familiarize with their profession and practice what they have learnt in their teaching training programs through teaching practice course. One of the broad objectives of teacher preparation programs is to ensure pre-service teachers to have a solid foundation to start their teaching professions (Eryaman, 2008; Goodnough, Falkenberg & MacDonald, 2016).

Teaching practice course, which is the most important course in vocational training practices, involves teaching practices and activities toward teaching profession and pre-service teachers acquire skills and experiences and build opinions and thoughts for teaching profession in pre-service teachers training program. The effect of this course is significant on pre-service teachers' teaching skills (Karadüz, Eser, Şahin & İlbay, 2009). Teaching practice course is a crucial period in which they get the first experience to utilize throughout their professional teaching life. Only if teaching practice is

conducted in real classroom setting, pre-service teachers can gain aimed experiences. The real setting for teaching practice is school (Shafqat & Ibrahim, 2015; Ngidi & Sibaya, 2003; YÖK, 1998). This setting is a process for pre-service teachers to be acquainted with their teaching professions, schools, teachers and students. In this process, pre-service teachers, teachers, school administrations and students have duties, responsibilities and mutual expectations. School administrations and related parts are responsible for fulfilling these responsibilities and expectations (Çetintaş & Genç; 2005). Teaching practice enables pre-service teachers to realize their strengths and weaknesses with regard to teaching profession (Eryaman, 2009; Shafqat & Ibrahim, 2015).

The research conducted by Veenman (1984) indicates that teachers encounter matters in relation to student motivation, classroom management, individual differences, effective use of materials and organization of teaching activities. In this respect, teacher training is important to be competent in teaching profession. Through this training, theoretical information is put into practice. Theoretical information which is not supported with practice, is forgotten over time. So, the dimension for practice should be taken into account to obtain long-standing information (Yılmaz, 2011). Pre-service teachers can ensure their personal and vocational development, track their vocational developments, be aware of their educational needs and evaluate their own decisions with this course (Yalın Uçar, 2012). Teaching practice course enables pre-service teachers to practice in teaching processes in real school settings under the supervision of a mentor teacher to prepare for teaching profession. This course also gives a chance to pre-service teachers to observe and make a comprehensible test in relation with school life (Çiçek & İnce, 2005). This course is also the name of the course to prepare pre-service teachers teaching through practice. It involves practicing strategies, methods, techniques, practical uses of principles of teaching and different activities in daily school life (Gujjar, Ramzan & Bajwa, 2011).

Pre-service teachers' training is predominantly based on theoretical information. However, teaching profession involves artistic, social and leading dimensions which require to be put into practice in addition to the theoretical information (Ekinci, 2010). The primary objectives of teaching practice course are to inform pre-service teachers about schools' structures and functions, put theoretical information into practice through appropriate activities and help them be acquainted with teaching profession (Eryaman & Riedler, 2010; Demir & Çamlı, 2011). The most important duty of practice teachers during training course is to guide pre-service teacher by enabling practice activities successfully to be fulfilled, track and supervise these activities (MEB, 1998). Practice teachers are supposed to inform pre-service teachers about strategy, technique, method and materials to be used and prepare a convenient setting where all these can be conducted. Observation and practice are important phases to positively influence pre-service teachers' attitudes to teaching profession behaviors. In this process, it is fundamental for mentor teachers to accompany pre-service teachers,

make a contribution to their professional developments and provide them with necessary feedbacks (Çetintaş &Genç; 2005). Pre-service teachers are constantly expected to make effort to develop their personal and professional qualifications (MEB, 1998) and put their acquired knowledge and skills into practice in school setting (Bektaş & Ayvaz, 2012). Pre-service teachers' qualifications are one of the most important inputs to influence the level of quality in education. The quality of training service in particularly training course, physical and technical facilities are effective to train qualified teachers (Adıgüzel, 2008).

Pre-service teachers are generally expected to be aware of their own abilities, know students, practice strategy, method and techniques, effectively manage teaching-learning process, use time well, have communication skills, acquire classroom management skills, make assessment and evaluation and manage inappropriate student behaviors in the context with the teaching-learning process of teaching practice course.

Purpose and Importance of the Research

Teaching practice can be defined as realizing and putting theoretical information such as classroom management, communication skills, management of inappropriate behaviors, and teaching and learning process, and assessment and evaluation and so forth into practice under the supervision of experienced teachers. Applications and activities with regard to teaching professions are included in teaching practice course. For that reason, this course is vital for pre-service teachers. It is aimed that pre-service teachers gain experience and skills through this course before they become teachers at schools. Practice process is required to both acquire theoretical information and test it in learning setting. Applied training which supports theoretical one will make teacher training effective. The purpose of this research is to reveal pre-service teachers' perceptions of teaching practice course. Based on this general purpose, the answers for the following questions were sought.

1- What are the positive cases pre-service teachers encounter in teaching practice course?

2- What are the negative cases pre-service teachers encounter in teaching practice course?

Method

Research Design

Case study research design, which is a type of qualitative research method, was used to reveal pre-service teachers' perceptions of teaching practice course. Case study research design enables researchers to profoundly comprehend and question cases as data are various and detailed in the research design (Patton, 2002). Case study is a qualitative research design which deals with a current topic in its real life framework (Yıldırım & Şimşek, 2011). Pre-service teachers' perceptions of the

subject matter were examined thoroughly. In this way, the data concerning the positive and negative cases pre-service teachers faced were obtained.

Study Group

The study group of the research consisted of 42 pre-service teachers who took teaching training course in 2014-2015 academic year. Purposeful sampling method was used to determine the study group. Purposeful sampling is a sampling approach which allows to study the cases which are thought to have rich data (Patton, 2002). The reason why this sampling method was chosen is that the researcher knows the pre-service teachers and can easily access them. In purposeful sampling, researcher chooses the most convenient samples for research purpose. In this respect, a part of the most appropriate population is observed for the studied subject (Balcı, 2009).

Data Collection Instruments

The data was derived from the interview form which was developed by the researcher. The data collection instrument consists of the semi-structured interview form with two questions. Experts' opinions (one associate professor in educational sciences and three assistant professors) and the related literature (Kiraz, 2002; Dursun & Kuzu, 2008; Demir & Çamlı, 2011; Bektaş & Ayvaz 2012; Nayır & Çınkır 2015) were taken into account to develop the instrument. In the interview form, the participants were addressed the questions below: 1- What are the positive cases pre-service teachers encounter in teaching practice course? and 2- What are the negative cases pre-service teachers encounter in teaching practice course?

Validity and Reliability Studies

The literature recommendation was taken into account for the validity and reliability of the study (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2012; Yıldırım ve Şimşek, 2011; Merriam, 2009; Creswell, 2008; Shenton, 2004; Patton, 2002). Participants' confirmation and voluntariness were taken as criteria for the validity of the interview form. Yıldırım and Şimşek (2011) stressed out that participants' voluntariness and collection of profound data thorough face to face interviews with participants are important to ensure validity and reliability of research. Data was collected by the means of face to face interviews with the participants at the end of teaching practice course. Detailed analysis of collected data and researcher's explanations how to reach conclusions are among the important criteria to ensure validity in qualitative research (Yıldırm & Şimşek, 2011). Experts' opinions were also consulted to make the interview form valid. Draft questions were prepared for the subject matter in the research and the opinions of two academicians in the department for educational sciences were obtained to evaluate the questions. The interview form was examined in terms of fluency, comprehensibility and coverage, and the final form was given after the corrections.

Data Analysis

Content analysis was employed to analyze the research data. The data were analyzed by two researchers. The coding was created based on the results while each researcher's findings were similar. Codes and themes were formed based on the results of the analysis and the tables were generated with the frequency technique. The obtained data was displayed with descriptive approach and frequencies. Of the data, two themes and nine sub-themes were formed. Cohen Kappa agreement coefficient values which are used to determine agreement among rates as follows: Job familiarity (.70); contribution to vocational development (.76); school familiarity (1.00); classroom management (1.00); matters oriented with teacher (.72); matters oriented with school (.76); matters oriented with student (.83) and matters oriented with implementation-regulation (.80). According to Viera and Garrett (2005), the agreement coefficient values indicate .20 or <20 = poor, .21-.40 = fair, .41-.60 = moderate, .61-.80 = good and .81-1.00 = very good. So, it can be stated that Kappa agreement coefficient values for the current research (.71-.1.00) are at good/very good levels. The direct quotations from pre-service teachers' perceptions were taken, the sentences were determined for this purpose and they were provided in the findings section. Codes were used to present pre-service teachers' perceptions. The first two letters in the coding refer to pre-service teachers, third letter to their gender (E: male; K: female) and numbers to their order. To illustrate, ÖAK9 code refers to female pre-service teacher in the 9th order. The perceptions with high frequency values were directly taken and commented in the analysis of the data. Content analysis method was used to analyze the data. Content analysis consists of cycle including concept development, exemplification, data collection, data coding, data analysis and comment. The purpose analysis is to be systematic and analytic. Although categories and variables may be leading at the first phase, some of them are allowed to appear throughout study. Therefore, cases, settings, styles, images, meanings and differences concerning content analysis deal with fixed discovery and constant comparisons (Altheide, 1987). The treatments conducted in the context with content analysis depend on aggregating similar data under particular concepts and themes and commenting on these concepts and themes by making them comprehensible for readers (Yıldırım & Şimşek, 2011).

Findings

The derived findings from pre-service teachers' perceptions of teaching practice course were displayed in tables under separate themes. Their perceptions of how the course positively influenced their interest and willingness with regard to teaching professions were analyzed and the results were presented in Table 1.

Table 1. Pre-service teachers' perceptions of the positive cases they encountered in teaching practice course

Theme	Content	f	%
Job Familiarity	Gaining professional experience (39), Familiarity with new generation and students (12), Experiencing different methods and techniques (11), learning specific issues in professional teaching (10), learning matters and difficulties in teaching profession (7), learning how to teach (5), learning official transactions (5), learning teaching profession an honorable job (4), learning school administrator's functions (1).	94	62.67
Contribution to professional development	Learning the importance of communication skills (8), learning how to use materials (5), being aware of self-confidence (5), realizing his/her insufficiencies (5), learning practice course motivating (4), creating awareness (3), putting acquired knowledge in courses into practice (4), acquiring empathy skill (3), learning to be calm (3), reason to increase courage (3), being aware of his/her competences (3), learning to be patient (2),	48	32.00
School Familiarity	Importance of school system (2), school's physical conditions (1), school's being a secure place (1)	4	2.66
Classroom management	Acquiring classroom management skills (3), acquiring problem solving skills (1)	4	2.66
Total		150	100

Pre-service teachers' perceptions of how teaching practice course positively influenced their interest and willingness with regard to teaching professions were examined in Table 1. Their perceptions were categorized under four themes namely "Job Familiarity", "Contribution to Professional Development", "School Familiarity" and "Classroom Management". It is seen that pre-service teachers' perceptions mostly intensified under "Job Familiarity" theme (62.67%). To illustrate, ÖAK9 coded pre-service teacher mentioned that teaching practice course enables to acquire professional experience and this course prepares them affectively. *"I have gained experience before I become a teacher. So, I think that I will not get excited when I start my teaching profession. I have had some idea about posture, voice-intonation, behavior development and so forth. I have acquired practice."* A similar perception was cited by ÖAE7 coded pre-service teacher. "*When you are a student, you learn by practicing the importance of going to work on time, satisfaction to completely fulfill the duty you undertake, excitement to embark on to learn something new. However you are informed about a job, however you participate in education and presentations, none of them will make*

a contribution to you as much as you work." ÖAK37 coded pre-service teacher stated her positive thoughts in terms of putting her theoretical knowledge into practice as *"it is a great pleasure and excitement to convey the obtained knowledge throughout pre-service teacher training to students and to get their feedbacks that they learn. They are open to all knowledge coming from their teachers in a classroom environment and their enthusiastic eyes once more remind teachers of their teaching profession' sacredness and beauty."* Another pre-service teacher coded ÖAE25 expressed that he experienced pleasure to teach something, learned to be patient and guided his students. *"It is a very good feeling to teach something to people. You not only teach them but also be an elder-brother or sister and a mother to them. You learn patience in teaching profession. When you feel that you teach children without expecting any return from them, you relieve spiritually and become peaceful. This is teaching profession."* It is quoted from ÖAE1 coded pre-service teacher as " *I had a teaching setting to practice the teaching techniques I have learned. In this way, I practiced."* ÖAK36 coded pre-service teacher mentioned that she realized the importance of communication, learned how to ensure classroom management and acquired personal and vocational development as *"I have learned how a communication should be made with students, how classroom management can be ensured, how a subject can be taught in the simplest term. Briefly, I have had even a little experience in pre-service teaching and come to conclusion that teaching is a good profession on the condition that it is conducted to the fullest extent."* It was quoted from ÖAK3 coded pre-service teacher that *"Some of the positive aspects are that those who like dealing with children and people, are willing to perform their works in whatever area they work. If a teacher can manage discipline by ensuring balance not severely frightening students, positive mutual interactions happen. Besides, a positive communication with school administrators influences teachers' teaching practices positively."* ÖAE5 coded pre-service teacher indicated *"There has been increase in my interest in teaching profession and affection for students. I am more closed and ready to my teaching profession. I think that I can perform teaching profession to the fullest extent."* ÖAK6 coded pre-service teacher stated *"I have realized that conveying my knowledge I acquired throughout the four year period in my pre-service teacher training, is a different taste."* It was quoted from ÖAK16 coded pre-service teacher that *"The fact that I listened to the students despite not being fully consciously with regard to pedagogical aspect, attracted even the weakest student with regard to academic achievement in the lesson and witnessed positive changes in the students was the biggest happiness in the world."*

Table 2. Pre-service teachers' perceptions of the negative cases they encountered in teaching practice course

Theme	Content	f	%
Matters oriented with teacher	Teacher centered approach (14), teachers' indifference (13), lack of communication among teachers (10), difficulty of teaching profession (7), teachers burnout (7), teachers' not being a role model (7), Teachers' negative attitude (5), teachers' coming to class unprepared (6), teachers' not using materials in lesson (5), insufficiency of teachers' salary (4), teachers' use of verbal violence (4), teachers' coming to lesson late (4), lack of communication between teacher and student (4), teachers' professional dissatisfaction (4), lack of dialogue between teacher and parent (3), inadequate activities in class (3), difficulty of classroom management (2), not implementing curriculum (1).	103	50.49
Matters oriented with school	School administrators' indifference (15), insufficiency of physical conditions (10), overcrowded class (5), insufficiency of school facilities (7), negative relationships between school administration and teacher (4), negative relationships between school administration and student (2),	44	21.56
Matters oriented with student	Inappropriate student behaviors (8), problematic students (7), students lack of knowledge (7), students' being reluctant (7), disrespect to teachers (4), negative attitude to teacher (4)	37	17.64
Matters oriented with implementation and regulation	Insufficiency in teaching practice course (7), teaching practice course's hours insufficient (3), teachers' inadequacy in regulation (1), matters oriented with regulation (1), students' undertaking heavy responsibility (1)	13	6.37
Other matters	Teachers’ not being shown the value they deserve (4), teacher shortage (1), schools' inadequacy (1), schools' not having budget (1)	7	3.43
Total		204	100

Pre-service teachers' perceptions of how teaching practice course negatively influenced their interest and willingness with regard to teaching professions were examined in Table 2. Their perceptions were grouped under five themes, namely "Matters oriented with teacher", "Matters oriented with student", "Matters oriented with school", "Matters oriented with implementation and regulation" and "Other matters". When Table 2 is examined, it is seen that almost half of their perceptions intensified under "matters oriented with teacher" theme (50.49%). A few examples concerning their perceptions of how the course negatively affected their interest and willingness in relation to teaching professions were provided below. **ÖAK14** coded pre-service teacher expressed her

experiences with regard to teacher centered approach in teaching practice course as *"I was disappointed with the fact that the high school is still at the same place I had left before. Nothing has changed. Teacher teaches his/her subject matter in classical approach and students listen to their teachers. If such a teaching approach exist, I am anxious to be such a teacher. Because if most teachers embrace such a teaching approach, it will be hard to be different and keep up with them. ..I am worried to train individuals who memorize not question."* Another pre-service teacher coded **ÖAE20** indicated his sadness not to face the positive cases, which he had experienced during the pre-service teacher training, at the school where he did internship as *"After realizing what we were told with regard to classroom management, use of materials, teaching methods and so forth in teacher training were not implemented at the school where I did* internship, *my interest in teaching profession, frankly speaking, somehow decreased."* **ÖAE1** coded pre-service teacher pointed out the negative dialogue between teacher and student as *"The fact that teacher constantly tossed insulting with the students in class and sometimes scolded them, offended me firstly as a human and as a teacher."*

Another matter encountered in teaching practice course is the matter oriented with student. This matter was expressed by **ÖAK9** coded pre-service teacher as *"I was scared to see the students with problems."* A similar case was revealed by **ÖAK6** as *"Students' reluctance and nonchalance caused me to be pessimistic for future. I realized this was not the case what I had imagined for students for years. So, I was disappointed."* **ÖAE5** coded pre-service teacher stated his possible anxiety which he would experience in future as *"The current student types may leave me in a difficult situation. I think that these are the most important cases."* **ÖAK30** coded pre-service teacher indicated how she realized the reality at the school as *"I had not been aware of being a teacher by the time I made observations at the school. I had dreams before the internship. However, unfortunately, negative characteristics of teachers and students burst my bubbles."*

The other matters perceived by pre-service teachers are the matters oriented with school and implementation-regulation. Their perceptions of the matters as follows: **ÖAE2** coded pre-service indicated *"School administrators' insufficient assistance for internship, wrong attitudes and behaviors."* A similar perception was cited by **ÖAE10** coded pre-service teacher as *"The fact that school administrators behave in a relaxed manner and do not fulfill their responsibilities are examples for the inappropriate behaviors. That teachers do not come to classes on time despite the problematic lesson hours and administrators ignore this issue and behave in a relaxed manner under no supervision, decreases quality issue in education. That curriculum is not implemented and school administrators neglect teachers' mistakes, also causes to decrease quality in education."* The matters including lack of materials were stated to cause negative outcomes in education. To illustrate, **ÖAK15** coded pre-service teacher mentioned this matter as *"There was not curtain in the class. Therefore, students could not see the board very well. Owing to the overcrowded class, the teacher had difficulty*

in concentration. **ÖAK3** coded pre-service teacher uttered what the insufficiencies at school could cause as *"Insufficiency of physical conditions decreases teacher's motivation."* A similar perception was also indicated by **ÖAK37** coded pre-service as *"The fact that schools cannot meet educational requirements because of limited means, tire and wear down both students and teachers during training process."*

Discussion and Conclusion

In this research, it was aimed to identify pre-service teachers' positive and negative perceptions with regard to teaching practice course. Pre-service teachers specified 150 positive and 204 negative opinions in relation to this course. The most remarked positive opinions are gaining professional experiences, familiarity with students, experiencing different methods and techniques, learning specific issues in professional teaching and knowing the importance of communication skills. Their negative opinions of the course as follows: school administrators' indifferences, teacher centered approach, teachers' indifference, lack of communication among teachers, difficulty of teaching profession, teachers burnout and teachers' not being a role model.

One of the basic functions to be a qualified teacher is to be experienced in professional domain. Besides, personal development should not be ignored. When pre-service teachers are considered to make observations for 14 weeks, teach, ensure classroom management, manage inappropriate student behaviors and so forth in the context with teaching practice course, they are expected to acquire significant experiences in personal and professional aspects. In the literature, the importance of professional and personal development is also emphasized (Göksoy, Sağır & Şenyurt, 2014). According to Gökçe and Demirhan (2005), pre-service teachers remarked that they increase their self-confidence and explore their strengths and weaknesses before starting teaching profession in the teaching practice course. In a similar study, most of the pre-service teachers uttered that they gain teaching experience and have opportunity to correct their mistakes. In addition to these, they indicated that this course makes a contribution to their personal and professional developments (Nayır & Çınkır, 2015). In another research implemented by Selvi, Doğru, Gençosman and Saka (2017), pre-service teachers indicate that they acquire professional experience, learn their responsibilities by familiarizing with their teaching profession and contribute to their professional developments through teaching practice course. The studies (Karadüz, Eser, Şahin & İlbay, 2009) revealed that pre-service teachers transform their theoretical knowledge into skills in teaching practice setting and develop themselves. When the results of the current research and the related literature are examined, it can be stated that teaching practice course enables pre-service teachers to gain experience in professional domain. The results of the research reveal pre-service teachers' expectations in this regard (Kurt Erhan, 2016).

Another positive perception pre-service teachers regarded is that they have the opportunity to familiarize with students. In the individual and group interviews conducted with pre-service teachers, the positive characteristics of students including technology literacy, quick and practical thinking, effective use of social media, participating into lessons resolutely were encountered. On the other hand, their negative characteristics such as their indifferences, inability to express themselves and mostly being interested in multiple choice questions were articulated. A pre-service teacher **(ÖA28)** summarized these negative traits of students as *"I was disappointed when I saw the student profile I had not expected so."* Pre-service teachers generally identify the current student profile unfavorable. They compare the student profile with their own ones as *"the student profile was like this in our time and now it is radically different.*

There are other issues that pre-service teachers dwell on with regard to professional experience. For instance, they experience different methods, techniques, learn specific issues in teaching profession, and realize the importance of communication skills. Pre-service teachers' ensuring classroom management by themselves under the supervision of mentor teachers, communications with students, managing student behaviors, employment of different methods and techniques can be said to make a significant contribution to their professional experience. It is known that professional experience cannot be acquired alone, but it can be gained just through experienced teachers' guidance. In the study implemented on this issue (Gökçe & Demirhan, 2005) more than half of the mentor teachers indicated that they always or usually fulfill their duties and responsibilities in teaching practice course. However, there are other research results which do not support the former ones. To illustrate, it was revealed in the study conducted by Karadüz, Eser, Şahin and İlbay (2009) that any change does not occur in the pre-service teachers' capability to use teaching methods and techniques. Monotonous teaching and teachers' not using different teaching methods and techniques can be argued to negatively affect pre-service teachers' professional experience acquisition (Yüksel, 2017).

The current research findings indicate that there are negative perceptions of pre-service teachers with regard to teaching practice course unlike the mentioned positive ones. In this regard, pre-service teachers reveal school administrators' indifferences. It is obvious that school administrators have a number of matters including physical matters, matters oriented with teacher, student, parents and budget and so forth to deal with. All these matters can cause to disregard pre-service teachers' matters. The findings concerning indifferences, neglect or lack of guidance support show consistencies with the other research results. It was concluded in the study carried out by Ekinci (2010) that school principals do not provide pre-service teachers with sufficient guidance support in teaching practice. It was revealed in another study conducted by Yılmaz and Tepebaş (2011) that starting social sciences teachers are not sufficiently supported by their colleagues and school administrators and when they

need guidance, they cannot get assistance from them. Besides, mentor teachers' professional guidance levels do not meet primary school teachers' expectations (Süral, 2017).

Another negative case pre-service teachers regarded is that teachers employ teacher centered approach in teaching. However, it is seen that student centered approach comes into prominence when the current curriculum is examined with regard to both philosophical and teaching-learning approaches. According to student-centered approach, learner is prominent and active. In teaching-learning process based on student-centered approach, conducting activities rather than conveying information and developing skills to carry out research, question and problem solving are expected. It is understood from pre-service teachers' perceptions that they have developed an expectation for student centered approach in their pre-service teacher training programs and their expectation has not been met in teaching practice course. As argued by Meade (2016) that different teaching methods have to be used to inspire students. However, it is understood from the data in Table 2 that pre-service teachers often face teacher centered approaches within the context of teaching practice course. These results show parallelisms with the ones of the results in the literature. It was determined in the study conducted by Soylu (2009) that both the pre-service teachers and mentor teachers employ teacher-centered presentations instead of student centered methods in the mathematics lesson. It was seen in other studies that teachers cannot go beyond traditional methods and techniques adequately (Özdaş, 2018, Çelikkaya & Kuş; 2009). These results are also supported with the study conducted by Yılmaz and Tepebaş (2011).

Another negative case pre-service teachers mentioned is that teachers are not interested in pre-service teachers very much. About one- third of the pre-service teachers pointed out this issue indicating that teaching practice course causes workload for teachers. This workload may cause indifference to pre-service teachers. The second reason may stem from the fact that teachers meet this new process and are not experienced in this sense. This case negatively affects pre-service teachers no matter what the reasons are. This result is supported with the other research in the literature. It was revealed that the mentor teachers and academicians do not provide the pre-service teachers with sufficient guidance (Seçer, Çelikgöz & Kaygılı; 2010). It is seen in another study that pre-service teachers complain about teachers' indifference (Kale, 2011). There are other studies showing the similar results (Kiraz, 2002; Eraslan, 2008).

Teacher burnout is another negativity observed by teacher candidates. Maslach and Jackson (1981) are described as emotional exhaustion and pessimism syndrome seen in employees who work in close relationships with people, and explain it in three dimensions; emotional exhaustion, depersonalization and personal accomplishment. Edelwich & Brodsky (1980) defined burnout as loss of idealism, energy, purpose, and anxiety, progressing as a result of business conditions. Teachers are

shown as one of the working groups experiencing high burnout because of the intense stress they are exposed to. Among the sources of environmental stress that cause burnout in teachers are scarce resources, inadequate teaching facilities, a high number of problems encountered in class, excessive bureaucracy, and problems stemming from school management in general (Akın & Oğuz 2010). The burnout situation negatively affects the teachers as well as the students who benefit from the teaching services. The results of the study show that there is an association between occupational efficiency assessment and burnout (Cemaloğlu, 2007; Angerer, 2000; Meade, 1996).

The other negative cases pre-service teachers mentioned as follows: lack of communication among teachers, the matters stemming from the difficulty of teaching profession, burnout teachers, teachers' not being a role model and inappropriate student behaviors. When the matters pre-service teachers encountered in teaching practice course are considered, it is seen that more than half of the matters are oriented with teachers. It is thought that overcoming the matters oriented with teachers will solve a number of the matters encountered in Turkish Educational System.

Suggestions

The following suggestions have been developed based on the results of the current research.

1. Teachers should prefer student centered approaches to teacher centered ones. In this regard, teachers' inadequacies should be dealt with in in-service trainings and seminars.

2. Studies such as weekly evaluation studies, group studies and so forth should be conducted to strengthen communication among teachers.

3. Students should be directed to activities, sportive activities to manage inappropriate student behaviors.

4. School administrators should plan consulting hours with teachers and students at regular intervals.

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Investigation of School Readiness and Academic Development of Elementary School Students Firstly Enrolled at School with "4+4+4 Education Regulation" in Turkey

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Abstract

Setting the age for starting elementary students at 60 months old has been a hotly debated topic in Turkey since the Grand National Assembly passed an education reform bill as Law No. 6287, known to the public as the "4+4+4 regulation." At the outset of its implementation, students who started first grade in school year 2012–2013 had an age distribution in the range of 60 to 84 months. The present research aims to determine the effect of this age difference among students in the same grade level on their subsequent development. Thus, the study is a longitudinal and causal comparative research since comparison of the two age groups on both readiness for the school and the academic development throughout the four assessments within six months intervals was investigated. The results indicate that students younger than 69 months are disadvantaged against their older peers in all the specified fields and subfields during all the periods studied.

Keywords: *Academic development, Academic success, Age Distribution, 4+4+4 educational regulation, School readiness*

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Introduction

The Law on Amendment of Elementary Education and Training Law and Along with Some Other Laws (Law No. 6287), ratified in the Grand National Assembly of Turkey on March 30, 2012 and implemented after publication in the Official Gazette on April 11, 2012, has necessitated regulation in three fields in the Turkish education system. Publicly known as the "4+4+4 regulation in education" and first implemented in school year (SY) 2012–2013, this education reform (1) moved the schooling age to an earlier age; (2) separated elementary schools into elementary schools, middle schools, and Religious (Imam Hatip) middle schools; and (3) included middle school education in compulsory education. These amendments are expected to yield short, intermediate, and long-term effects on students, families, schools, and society. Thus, there is a need for systematic, ethical, and skeptical examination of these effects especially the first topic since the earlier schooling age in the reform is the most debated topic among regulations implemented.

Law No. 6287 amends article 15 of the Ministry of National Education (MONE) Elementary Institutions Regulation, published in the Official Gazette dated August 27, 2003. This clause on schooling age previously stipulated the following:

> Children who turned 72 months on December 31 of that year are enrolled in grade one of elementary schools. Children entitled to enroll due to age, but not physically sufficiently developed, may, upon written request by parents, continue pre-school education or delay enrollment by one year. (MEB İlköğretim Kurumları Yönetmeliği [MONE Elementary Institution Regulation], 2003).

The current version of this regulation, amended on July 21, 2012, reads as follows:

> Children turning 66 months by the end of September are enrolled in grade one of elementary schools. Children of age between 60 and 66 months, understood to be prepared for elementary school regarding development may also be enrolled in grade one upon request by parents. Children entitled to enroll due to age, but not physically or mentally sufficiently developed and cannot adapt to school, aged 66 months or older, may be enrolled in pre-school education or enrollment may be delayed by one year, upon a medical reports issued until end of November by medical institutions, with the diagnosis stating physical or mental underdevelopment. (MEB Okul Öncesi Eğitim ve İlköğretim Kurumları Yönetmeliği [MONE Preschool and Elementary Institution Regulation], 2012).

When the new regulations were implemented in SY 2012–2013, students starting school thus varied in age from 60 to 84 months, or a two-year range. According to Goodlad and Anderson (1987), mental age data show a difference of four years in children at age 6. For example, first-grade students

aged from 5 years and 9 months to 7 years and 4 months have mental ages ranging from 3 years and 10 months to 8 years and 4 months (for a difference of four and a half years). Further, IQ differences have been observed: for example, a student with an IQ of 68 and another with an IQ of 129 are both in the same class with an IQ average of 101. Based on these data, the mental ages of Turkish children in the 60 to 84 months range in SY 2012–2013 would have mental ages ranging from three to nine years. The mental age range that has grown even larger in the Turkish education system may have effects on the academic development of students based on group instruction.

As regards the amendments introduced by Law No. 6287, the government claimed various studies were done throughout the country on the overall implementation both for first-grade enrollees in the first year of implementation and in subsequent years. Such works tapped the opinions of teachers, school administrators, parents, and non-governmental organizations using quantitative and qualitative approaches. These reports have asserted that participants generally had a negative opinion on the overall implementation (Bavlı & Aydın, 2015; Calp & Calp, 2015; Doğan, Demir, & Pınar, 2013; Epçaçan, 2015; Özden, Kılıç, & Aksu, 2014; Peker-Ünal, 2013). Based on the opinions of first-grade teachers, the readiness, school adaptation, encountered problems, and learning process for reading and writing of the students enrolled in first grade in SY 2012–2013 were taken into consideration in the context of their calendar age (Aybek & Aslan, 2015; Aykaç, Kabaran, Atar, & Bilgin, 2014; Başar, 2013; Boz & Yıldırım, 2014; Külekçi, 2013; Özenç & Çekirdekçi, 2013; Öztürk & Uysal, 2013; Sezginsoy-Şeker, 2015; Ünver, Dikbayır, &Yurdakul, 2014; Uzun & Alat, 2014). Further, first-grade teachers had the opinion that students starting school in the 60–69 months age range had insufficient readiness, encountered adaptation problems, and had difficulties in reading and writing.

These studies on teacher opinions, however, lacked data obtained directly from first-grade students, which may be attributed to the presumption that the opinions of teachers, administrators, parents, and all concerned parties on the development of first-grade students are more important. Nonetheless, the developmental effects of the implementation can only be determined in a more valid and reliable manner through analysis of data directly obtained from students. The purpose of the current research is to examine the effects on the academic development of students, of the age difference that increased even further after Law No. 6287 set an earlier schooling start age. In the process of achieving this aim, answers have been sought for the following questions:

1. Is there a meaningful difference in the level of readiness of elementary school students who started their first grade of elementary school under 69 months and those over 69 months in SY 2012–2013?

2. Is there a meaningful difference in the academic success of students who started their first grade of elementary school under 69 months and those over 69 months in SY 2012–2013 through semesters of grades one and two?

3. How is the trend of academic development of students who started their first grade of elementary school under 69 months and those over 69 months in SY 2012–2013 during two years of schooling?

Method

This study compares the readiness at the start of elementary school and academic development shown during two years, based on schooling year, of students newly enrolled in elementary school in SY 2012–2013, when the regulations set by Law No. 6287 were implemented. The effect of the age variable in readiness and academic success have been examined without any manipulation and fully based on current practices. In this respect, the research can be defined as a causal-comparative research (Gay & Airasian, 2006). The research is also a longitudinal research and a panel study type has been mostly used, as it takes into consideration the development of a group of students (panel) at varying ages (60 to 84 months) starting school in the same school year (2012–2013) for a certain period (two years).

Longitudinal studies "collect and analyze data from different points in a certain period to examine the change during such period" (Fraenkel & Wallen, s. 391). Van Ness, Fried, and Gill (2011) emphasized that repeated data collection during a certain period should be undertaken for at least three times or more; thus, experimental works with practices such as pretest-posttest are excluded from longitudinal research. In longitudinal research, the interpretation of qualitative patterns (Saldanã, 2003), analysis of visual graphics (Brown, McGuire, Beck, Peterson, & Mooney, 2007), or variance analysis of repeated measurements as well as analysis of implicit development curves (Long, 2012) are used in the analysis of data collected at different times.

Trend, cohort, and panel studies are commonly used in longitudinal research (Fraenkel & Wallen, s. 391). The "panel study" type has been used in the current longitudinal research, as data are collected from the same study group at different times. The study group or panel consists of students starting elementary school in SY 2012–2013; data are collected four times with six-month intervals.

Panel Group

The panel group of this longitudinal research consists of 2,081 students who started grade one in SY 2012–2013 in 39 private schools in four different provinces. The age distribution of these students ranges from 60 to 84 months as of September 2012. According to the purpose of the study, these 2,081 students were classified into younger and older age groups according to month as of

September 2012. The threshold was set at 69 months: students younger than 69 months constituted the younger age group, and students at or older than 69 months constituted the older age group. Consequently, 357 students were younger than 69 months (17%) and 1,724 students were at 69 months or older (83%). The distribution of the students constituting the panel group according to the younger and older age groups is presented in Table 1, together with gender information.

Table 1. Distribution of Students in the Study Group according to Age Group Classification

Age Group Classification	Gender	Frequency (f)	Percent (%)
Younger than 69 months	Male	188	52.7
	Female	168	47.1
	Unknown	1	0.3
	Total	357	100.0
69 months or older	Male	939	54.5
	Female	781	45.3
	Unknown	4	0.2
	Total	1724	100.0

Collection and Analysis of Data

Academic developmental monitoring data gathered by the Cito Turkey Pupil Monitoring System (PMS) were used at six-month intervals in two years. Thus, the study was performed based on monitoring of the same students for four semesters.

Cognitive Development (CD) Assessment

The students' readiness at the start of elementary school has primarily been analyzed in research on schooling age. In the current work, this examination was performed based on the Cognitive Development (CD) assessment data; the students participated in the standard test during the first semester of SY 2012–2013, and their readiness levels were determined by taking into consideration the cutoff scores generated according to the monthly intervals of the CD assessment (Cito Turkey, 2013; Cito Turkey, 2015a).

According to the framework of the PMS, students starting grade one of elementary school are given a CD assessment in the first semester, for which validity and reliability studies have been performed. Elementary school readiness is surveyed with this application regarding cognitive development, including the fields of Cognitive Concepts, Auditory Discrimination, Receptive Vocabulary, and Text Comprehension. Measurement is made in the field of "Cognitive Concepts" for recognizing and comparing basic and intense colors, geometrical shapes, quantities and locations, and understanding events and processes; in the field of "Auditory Discrimination" for distinguishing

vowels and consonants that distinguish meaning, words that have a similar sound but have one different sound; in the field "of Receptive Vocabulary," for identifying verb and noun words; and in the field of "Text Comprehension," for ability to understand information provided by direct or indirect narration. Scores obtained from the CD assessment are evaluated based on the monthly generated cutoff scores. Students who receive scores lower than the cutoffs in at least two subfields other than the Auditory Discrimination field are defined as students requiring help. Such students are monitored closely, especially their participation in suitable school activities (Arıkan, 2008; Arıkan & Berberoğlu, 2013; Cito Turkey, 2013; Cito Turkey, 2015a; Konak, Berberoğlu, Arıkan, Özgen Tuncer, & İş Güzel, 2010).

Pupil Academic Development Monitoring System (A-PMS)

Meanwhile, students' academic success in this work was compared on a semester basis, in accordance with the younger and older age groups classification. This comparison was realized using CD assessment data and data from the Pupil Academic Development Monitoring System (A-PMS), in which the students participated from their second to fourth semesters of study.

The A-PMS, a proven valid and reliable measuring tool and a standardized test, is generally conducted from the second semester of the first grade of elementary school to monitor academic development in fundamental course fields, namely, Mathematics, Turkish, Life Sciences, Science, and Social Sciences. To ensure comprehensive results, subfields are also tested: Numbers, Geometry, Measurement, and Probability and Statistics in Mathematics; Listening Comprehension, Reading Comprehension, Vocabulary, and Writing in Turkish; and Knowledge Behavior, and Notions in Life Sciences. The scores obtained from the A-PMS application are evaluated according to the proficiency descriptions given within the framework of proficiency tables. Thus, the strong and weak skills of students can be clearly identified. Students are not ranked or even compared in this evaluation, as the focus is on what students know and what they learned (Berberoğlu, 2009; Berberoğlu, 2012; Berberoğlu, İş Güzel, & Toker, 2011; Cito Turkey, 2013; Cito Turkey, 2015b; İş Güzel, 2008; İş Güzel, 2009; İş Güzel & Berberoğlu, 2013).

Additionally in the current study, as part of the monitoring of the students for two years, a developmental examination of academic successes was performed based on each field and subfield, in accordance with the basic course fields of the students in the younger and older age groups.

In the analysis of the data, multi-factor analysis of variance (MANOVA) was used to determine the score average differences of elementary school students that are under 69 months and those over 69 months on both readiness at the start of elementary school and academic success of the main fields and sub-fields. Effect size values were also analyzed to determine whether the identified differences have practical meaning (Hinkle, Wiersma, & Jurs, 1988).

Results and Comments

The results are presented in the same order as the research questions posed for the study.

Results and Comments Regarding the First Sub-Problem

The first question posed for the study was: "*Is there a meaningful difference in the level of readiness of elementary school students who started their first grade of elementary school under 69 months and those over 69 months in SY 2012–2013?".*

As regards the first research question, the readiness status of the students was examined using data from the CD assessment of 2,081 students in September in SY 2012–2013. Students requiring help were identified, with consideration for the monthly intervals (Cito Turkey, 2013; Cito Turkey, 2015a). The CD assessment scores were again taken into consideration for the comparison of the academic successes of the younger and older age groups. MANOVA was used to determine differences in the score averages in each field. The score averages of the younger and older age groups under the CD assessment fields are presented in Table 2. Differences varying between 30 and 37 points were observed in favor of the older age group in all of the CD assessment fields.

Table 2. Score Averages of the Two Age Groups in the First Semester (CD Assessment Fields)

Fields	Score averages: students younger than 69 months	Score averages: students 69 months or older	Difference
Cognitive Concepts	201.21	231.70	30.49
Auditory Discrimination	228.84	266.15	37.31
Receptive Vocabulary	197.51	231.44	33.93
Text Comprehension	288.03	318.33	30.30

According to the MANOVA, age group classification showed a statistically significant difference regarding score averages (Wilks' λ=0.933, $F_{(4,2076)}$=37.529, $p<0.05$, η^2=0.067). The effect size of the age group classification indicated an intermediate-size practical significance (Cohen, 1977). ANOVA results of the score averages in CD assessment fields showed significant differences: Cognitive Concepts ($F_{(1,274894.805)}$=97.662, $p<0.05$, η^2=0.045), Auditory Discrimination ($F_{(1,411787.999)}$=71.243, $p<0.05$, η^2=0.033), Receptive Vocabulary ($F_{(1,340358.817)}$=94.489, $p<0.05$, η^2=0.043), and Text Comprehension ($F_{(1,271454.423)}$=52.885, $p<0.05$, η^2=0.025). Effect sizes in each of the four fields indicated that these differences have small value practical significance (Cohen, 1977). Thus, regarding academic success, the younger age group was more disadvantaged with respect to the older age group, with respect to all four fields of the CD assessment.

Results and Comments Regarding the Second Sub-Problem

The second question posed for the study was: *"Is there a meaningful difference in the academic success of students who started their first grade of elementary school under 69 months and those over 69 months in SY 2012–2013 through semesters of grades one and two?".*

Comparison of Academic Success of Age Groups under the Fields and Subfields of the A-PMS in the Second Semester

The second semester A-PMS scores were taken into consideration for the comparison of the academic successes of the younger and older age groups. MANOVA was used to seek differences in their score averages in each field. The score averages of the younger and older age groups under the A-PMS fields are provided in Table 3. Differences varying between 14 and 35 points were observed in favor of the older age group in all of the A-PMS subfields.

The MANOVA, performed to determine the statistical significance of the score average differences, indicated that age group classification yielded statistically significant differences regarding score averages (Wilks' λ=0.948, $F_{(8,2072)}$=14.269, $p<0.05$, η^2=0.052). Based on an analysis of the effect size of the age group classification, a small size practical significance was found (Cohen, 1977). Results of the ANOVA applied according to the score averages of A-PMS fields showed significant differences in the subfields of Mathematics: Numbers ($F_{(1,239904.754)}$=85.412, $p<0.05$, η^2=0.039), Geometry ($F_{(1,135493.583)}$=22.004, $p<0.05$, η^2=0.010), and Measurement ($F_{(1,56103.030)}$=33.402, $p<0.05$, η^2=0.016). Significant differences were also seen in the score averages for the subfields of Turkish: Listening Comprehension ($F_{(1,359785.913)}$=60.858, $p<0.05$, η^2=0.028), Reading Comprehension ($F_{(1,65113.934)}$=15.189, $p<0.05$, η^2=0.007), and Vocabulary ($F_{(1,251052.134)}$=23.115, $p<0.05$, η^2=0.011). In the field of Life Sciences, significant differences were seen in the score averages for the subfields of Behavioral Knowledge ($F_{(1,208751.966)}$=30.436, $p<0.05$, η^2=0.014) and Notions ($F_{(1,299987.853)}$=53.650, $p<0.05$, η^2=0.025). However, these differences have small value practical significance (Cohen, 1977). Thus, the younger age group younger was disadvantaged with respect to the older group regarding academic success, and the former continued to have such disadvantage in all fields and subfields of the A-PMS.

Comparison of Academic Success of Age Groups under the Fields and Subfields of the A-SPMS in the Third Semester

The third semester A-PMS scores were again taken into consideration for the comparison of the academic successes of the younger and older age groups. This period coincided with the first semester of SY 2013–2014 school year. MANOVA was used to evaluate for differences in the score averages in each field. The score averages of the younger and older age groups under the A-PMS

fields are listed in Table 3. Differences varying between 22 and 37 points were observed in favor of the older age group in all of the A-PMS subfields.

As in the previous semester, statistically significant differences were observed in the score averages of both age groups (Wilks' λ=0.953, $F_{(8,2072)}$=12.838, $p<0.05$, η^2=0.047), although the effect size of the age group classification indicated a small size practical significance (Cohen, 1977). Score averages for the A-PMS fields showed significant differences for the subfields of Mathematics: Numbers ($F_{(1,221763.242)}$=53.605, $p<0.05$, η^2=0.025), Geometry ($F_{(1,207849.372)}$=37.168, $p<0.05$, η^2=0.018), and Measurement ($F_{(1,145162.418)}$=58.042, $p<0.05$, η^2=0.027); for the subfields of Turkish: Listening Comprehension ($F_{(1,218527.277)}$=47.615, $p<0.05$, η^2=0.022), Reading Comprehension ($F_{(1,151653.349)}$=39.220, $p<0.05$, η^2=0.019), and Vocabulary ($F_{(1,232785.254)}$=65.572, $p<0.05$, η^2=0.031); and for the subfields of Life Sciences, Behavior Knowledge ($F_{(1,274057.567)}$=48.136, $p<0.05$, η^2=0.023) and Notions ($F_{(1,412830.577)}$=61.096, $p<0.05$, η^2=0.029). Nonetheless, effect sizes indicated small value practical significance (Cohen, 1977). These results indicated the pervasive difference in academic success between the two age groups, valid for all fields and subfields in the A-PMS.

Table 3. Score Averages of the Two Age Groups in Semesters (A-PMS Fields and Subfields)

Fields	Subfields	Younger than 69 months			69 months and older			Difference		
		Second Semester	Third Semester	Fourth Semester	Second Semester	Third Semester	Fourth Semester	Second Semester	Third Semester	Fourth Semester
Mathematics	Numbers	33.20	59.61	115.32	61.68	86.99	142.04	28.48	27.38	26.72
	Geometry	65.20	68.46	85.06	86.61	94.97	102.69	21.41	26.51	17.63
	Measurement	23.03	36.04	63.83	36.80	58.19	92.48	13.77	22.15	28.65
Turkish	Listening Comprehension	142.58	147.18	168.38	177.46	174.37	196.61	34.88	27.19	28.23
	Reading Comprehension	154.94	178.10	203.01	169.78	200.74	226.79	14.84	22.64	23.78
	Vocabulary	150.73	175.05	212.01	179.87	203.10	240.49	29.14	28.05	28.48
Life Science	Knowledge Behavior	181.54	221.14	194.49	208.11	251.58	212.99	26.57	30.44	18.50
	Notions	144.22	166.20	197.15	176.07	203.57	222.40	31.85	37.37	25.25

Comparison of Academic Success of Age Groups under the Fields and Subfields of the A-PMS in the Fourth Semester

The fourth semester here refers to the second semester of SY 2013–2014. Similarly, MANOVA was used to evaluate differences in the score averages in each field based on the A-PMS data. Table 3 provides the score averages of the younger and older age groups under the A-PMS fields. Differences varying between 18 and 29 points were observed in favor of the older age group in all of the A-PMS subfields.

As in the previous semesters, statistically significant differences were seen in the score averages with respect to the age group classification (Wilks' λ=0.962, $F_{(8,2072)}$=10.142, $p<0.05$, η^2=0.038). Analysis of the effect size of the age group classification indicated a small size practical significance (Cohen, 1977). ANOVA results of the students' score averages for A-PMS fields showed significant differences: for the subfields of Mathematics, Numbers ($F_{(1,211258.515)}$=36.199, $p<0.05$, η^2=0.017), Geometry ($F_{(1,91904.566)}$=22.349, $p<0.05$, η^2=0.011), and Measurement ($F_{(1,242733.372)}$=52.023, $p<0.05$, η^2=0.024); for the subfields of Turkish, Listening Comprehension ($F_{(1,235780.391)}$=43.479, $p<0.05$, η^2=0.020), Reading Comprehension ($F_{(1,167174.196)}$=36.523, $p<0.05$, η^2=0.017), and Vocabulary ($F_{(1,239988.329)}$=50.220, $p<0.05$, η^2=0.024); and for the subfields of Life Sciences, Behavior Knowledge ($F_{(1,101165.796)}$=21.445, $p<0.05$, η^2=0.010) and Notions ($F_{(1,188522.994)}$=35.251, $p<0.05$, η^2=0.017). These differences have small value practical significance with respect to effect sizes (Cohen, 1977). Therefore, differences in the academic success in all the fields and subfields of the A-PMS between the two age groups persisted throughout the semesters.

Results and Comments Regarding the Third Sub-Problem

The last question posed for the study was: *"How is the trend of academic development of students who started their first grade of elementary school under 69 months and those over 69 months in SY 2012–2013 during two years of schooling?".*

In line with the last question, this study is based on a monitoring of students starting elementary school in SY 2012–2013 for a period of four semesters or two years. Statistically significant differences have been observed in the academic success score averages for all fields and subfields of the A-PMS performed at six-month intervals on the younger and older age groups. This analysis on the differences based on the fields and subfields is expected to contribute to the interpretation of the results. Thus, the score averages of the younger and older age groups shall be analyzed in terms of student development in each A-PMS field and subfield based on data for three semesters.

Monitoring of the Academic Development of Two Age Groups in Mathematics - Numbers

Table 3 shows data on the score averages analyzed for the Mathematics field, Numbers subfield, from the first semester of grade one to the second semester of grade two, for the younger and older age groups. A score difference of 29 points was observed in the second semester of grade one and 27 points in the first and second semesters of grade two.

MANOVA was performed to determine if these score average differences are statistically significant, and it indicated that age group classification showed statistically significant difference for the Numbers subfield score averages (Wilks' λ=0.957, $F_{(3,2077)}$=31.430, $p<0.05$, η^2=0.043). Analysis of the effect size of the age group classification indicated a small size practical significance (Cohen, 1977).

The Numbers score averages of the younger and older age groups are provided in Figure 1, together with the A-PMS proficiency levels. The score averages of both groups showed a statistically significant difference for three semesters. Further, the score average of the older age group was almost equivalent to fourth level in grade one, semester two, whereas the scoring average of the younger age group remained in third level. In grade two, semester one, the scoring average of the older age group was equivalent to third level, whereas that of the younger age group decreased to second level. Both age groups increased to fourth level in grade two, semester two. Thus, the younger and older age groups had differences in skills, in the context of their proficiency levels in higher-level thought processes. For example, students in the older age group were able to use their problem-solving skills during grade one, semester two, whereas those in the younger age group could only do operations. Although students in both age groups could solve familiar problems in grade two, semester two, their degree of development in this skill differed, based on their score differences.

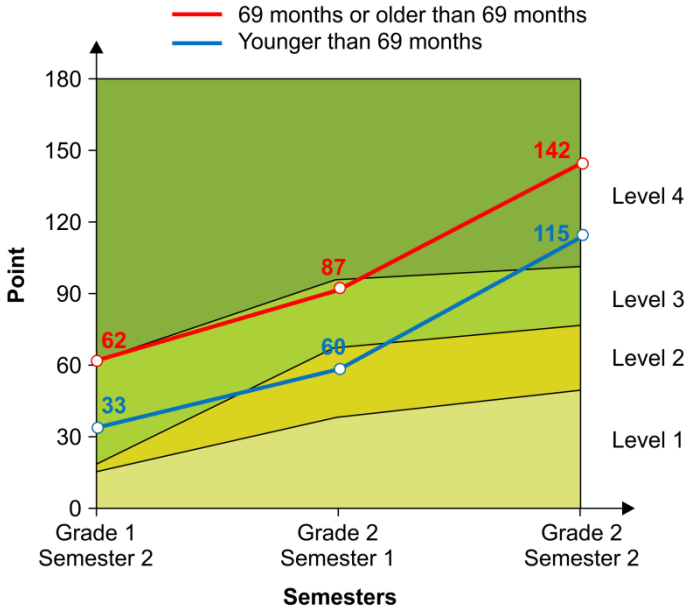

Figure 1. Score Averages of the Two Age Groups for A-PMS Mathematics, Numbers

Monitoring of the Academic Development of Two Age Groups in Mathematics - Geometry

In the context of tracking the same students, the data provided in Table 3 shows the score averages of the Mathematics subfield Geometry from the first semester of grade one to the second semester of grade two, for the younger and older age groups. Score differences of 21 points in the second semester of grade one, 27 points in the first semester of grade two, and 18 points in the second semester of grade two were observed.

Similar to the previous subfield explored, age group classification showed a statistically significant difference regarding the Geometry subfield score averages (Wilks' λ=0.977, $F(3,2077)=16.568$, $p<0.05$, $\eta 2=0.023$), although a small size practical significance when effect size was considered (Cohen, 1977).

Figure 2 shows the Geometry subfield score averages of the younger and older age groups, together with the A-PMS proficiency levels. The score averages of both age groups were equivalent to fourth level proficiency, the highest level, albeit with a statistically significant difference between the two groups. This difference persisted throughout three semesters.

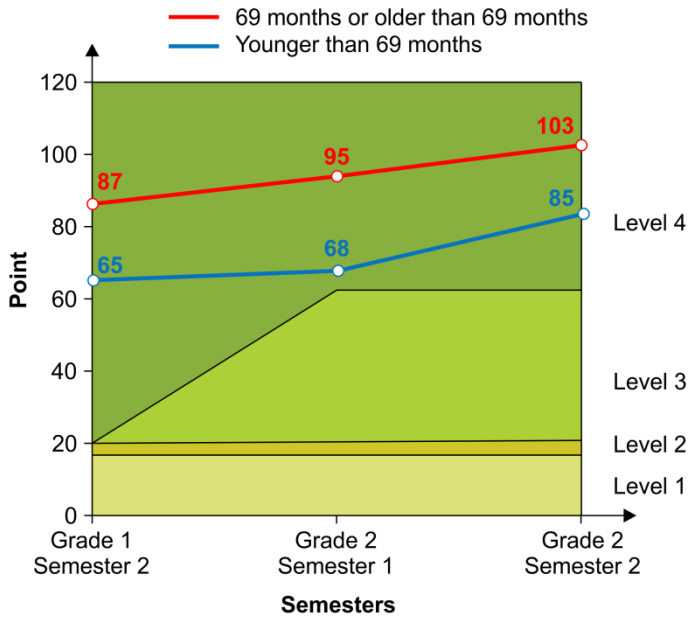

Figure 2. Score Averages of the Two Age Groups for A-PMS Mathematics, Geometry

Monitoring of the Academic Development of Two Age Groups in Mathematics - Measurement

The score averages for the Mathematics subfield Measurement from the second semester of grade one to the second semester of grade two for both age groups are provided in Table 3. In the same students, the results showed a score difference of 14 points in second semester of grade one, 22 points in the first semester of grade two, and 29 points in the second semester of grade two.

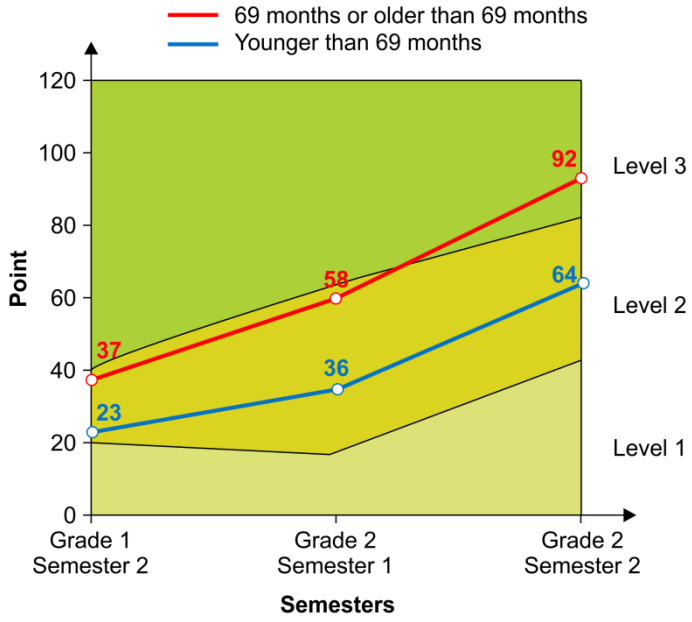

Figure 3. Score Averages of the Two Age Groups for A-PMS Mathematics, Measurement

Again, age group classification showed a statistically significant difference regarding the Measurement score averages (Wilks' λ=0.963, $F_{(3,2077)}$=26.372, $p<0.05$, η^2=0.037), albeit one with a small size practical significance (Cohen, 1977). A statistically significant difference is observed in Figure 3, which shows the Measurement score averages of the two age groups together with the A-PMS proficiency levels. The difference persisted and even increased for three semesters. Further, the score averages of both groups remained at second level in grade one, semester two and grade two, semester one. The scoring average of the younger age group remained at second level, whereas that of the older age group increased to third level in grade two, semester two. These findings indicated differences regarding the skills of the younger and older age groups in the Measurement subfield. For example, students in the younger age group in grade two, semester two have defects in such skills as predicting, comparing situations, and inferring about comparisons, with respect to the older age group.

Monitoring of the Academic Development of Two Age Groups in Turkish – Listening Comprehension

In the field of A-PMS field of Turkish, score averages of the same students were analyzed for significant differences. Table 3 shows data for the Turkish subfield Listening Comprehension from the second semester of grade one to the second semester of grade two, for both age groups created. Score difference of 35, 27, and 28 points were observed for the second semester of grade one, first semester of grade two, and second semester of grade two, respectively.

A small size practical significance (Cohen, 1977) was found in the score average differences with respect to the age group classification for Listening Comprehension (Wilks' λ=0.963, $F_{(3,2077)}$=26.441, $p<0.05$, η^2=0.037). The score averages of the two age groups for the Turkish subfield Listening Comprehension (shown in Figure 4 together with their A-PMS proficiency levels) were equivalent to fourth level proficiency, the highest level, although the two groups' scores had a statistically significant difference that persisted throughout three semesters.

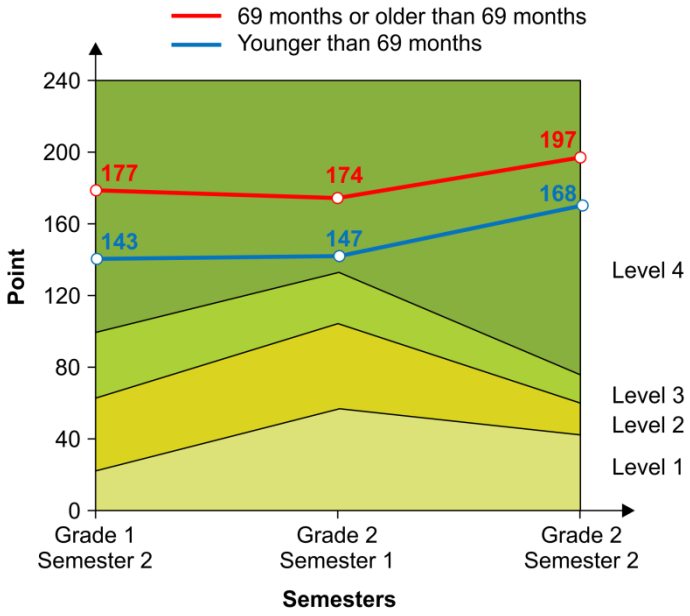

Figure 4. Score Averages of the Two Age Groups for A-PMS Turkish, Listening Comprehension

Monitoring of the Academic Development of Two Age Groups in Turkish – Reading Comprehension

In Table 3, the score averages of both age groups for the Turkish subfield Reading Comprehension from the second semester of grade one to the second semester of grade two show differences of 15, 23, and 24 points in the three successive semesters covered.

The result of the MANOVA performed to determine if these score average differences are statistically significant indicated that age group classification showed a statistically significant difference regarding the Reading Comprehension subfield score averages (Wilks' λ=0.977, $F_{(3,2077)}$=16.069, $p<0.05$, η^2=0.023). Analysis of the effect size of the age group classification indicated a small size practical significance (Cohen, 1977).

The Turkish subfield Reading Comprehension score averages of the two age groups, provided in Figure 5 with the A-PMS proficiency levels, showed equivalence to third level proficiency, the highest level, but with a statistically significant difference that persisted throughout three semesters.

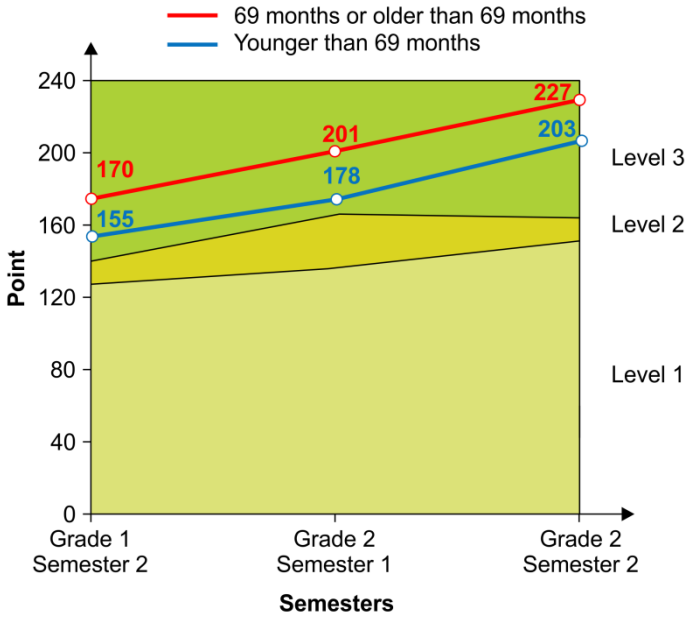

Figure 5. Score Averages of the Two Age Groups for A-PMS Turkish, Reading Comprehension

Monitoring of the Academic Development of Two Age Groups in Turkish – Vocabulary

Table 3, which shows the score averages of the two age groups of the same students for the Turkish subfield Vocabulary from the second semester of grade one to the second semester of grade two, shows score differences of 29, 28, and 29 points in the successive semesters analyzed.

The MANOVA similarly revealed that age group classification showed a statistically significant difference regarding Vocabulary subfield score averages (Wilks' λ=0.962, $F_{(3,2077)}$=27.256, $p<0.05$, η^2=0.038), with a small size practical significance (Cohen, 1977).

Figure 6 shows the score averages of the students in Turkish Vocabulary. Proficiency descriptions have not been made for this subfield. As in the other subfields, a statistically significant difference was seen between the score averages of both groups for three semesters.

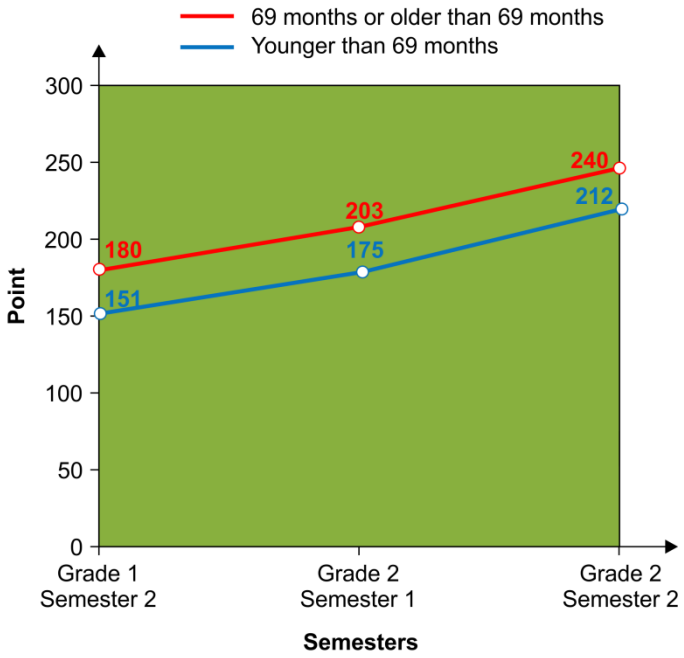

Figure 6. Score Averages of the Two Age Groups for A-PMS Turkish, Vocabulary

Monitoring of the Academic Development of Two Age Groups in Life Science – Knowledge Behavior

The same students' score averages for the Life Science subfield Knowledge Behavior from the second semester of grade one to the second semester of grade two are provided in Table 3 as well. The score differences observed were 27 points in the second semester of grade one, 30 points in the first semester of grade two, and 19 points in the second semester of grade two.

The same trends found in the other fields were observed for this subfield. Age group classification showed a statistically significant difference with respect to score averages (Wilks' λ=0.973, $F_{(3,2077)}$=19.419, $p<0.05$, η^2=0.027). A small size practical significance was identified (Cohen, 1977).

The score averages of the same students in both age groups for the Life Science subfield Knowledge Behavior are provided in Figure 7. Proficiency descriptions have also not been made for this subfield. A statistically significant difference was seen between the score averages of the two groups for three semesters, albeit with a slight decrease in the last semester, second semester of grade two.

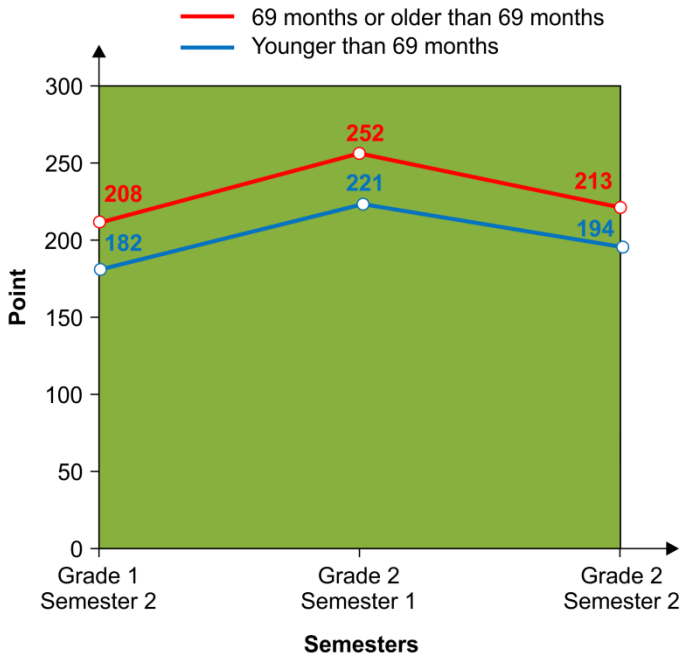

Figure 7. Score Averages of the Two Age Groups for A-PMS Life Science, Knowledge Behavior

Monitoring of the Academic Development of Two Age Groups in Life Science – Notions

Data of the same students for the Life Science subfield Notions field are shown in Table 3. Score differences of 32, 37, and 25 points were observed in the three successive semesters from the second semester of grade one to the second semester of grade two.

Age group classification still showed a statistically significant difference, but a small size practical significance (Cohen, 1977), regarding the Notions subfield score averages (Wilks' λ=0.961, $F_{(3,2077)}$=27.935, $p<0.05$, η^2=0.039).

As in the case of the Behavior Knowledge, Life Science subfield, a statistically significant difference was seen between the score averages of both groups, consistent for three semesters (Figure 8).

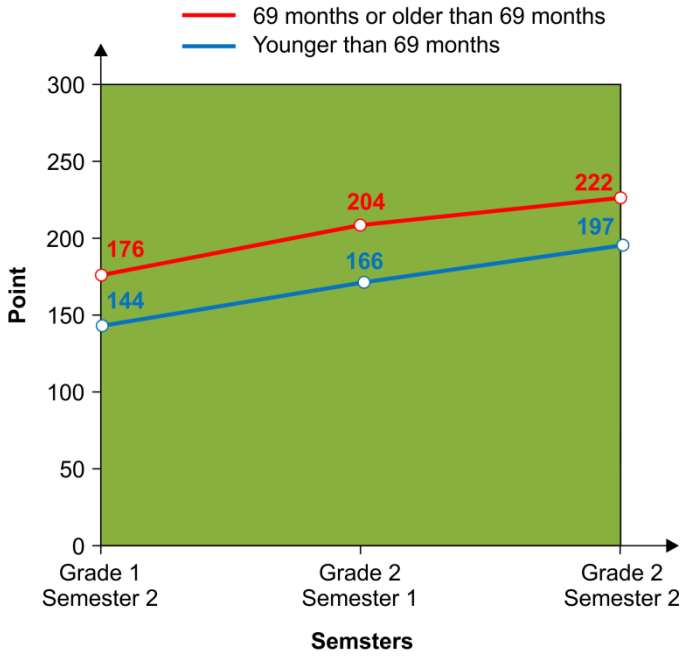

Figure 8. Score Averages of the Two Age Groups for A-PMS Life Science, Notions

Discussion, Conclusion and Suggestions

The findings here indicate that the cognitive development of students who started elementary school in SY 2012–2013 at age less than 69 months had the necessary skills, albeit at lower level compared with those who started at or older than 69 months, in the fields of cognitive development as cognitive concepts, sound distinguishing, passive vocabulary, and text comprehension. Significant differences in the range of 30 to 37 points were observed, in favor of the older age group in all fields. In other words, the younger and older age groups had a significant difference in their readiness for elementary school. Readiness, which expresses the state of a student being ready for school and the school for the student, family, and environment, is regarded as the basis of opportunity for equality and high-quality education (UNICEF, 2012). Thus, setting the schooling age to 60 months increased heterogeneity in student readiness in classes. Indeed, the current findings indicate that, based on data obtained directly from students, students in the younger age group started school in SY 2012–2013 without a sufficient level of readiness compared with the students in the older group.

In addition to the significant difference of levels of readiness of the younger age group compared to the older group in terms of cognitive development, research based on the opinions of grade one teachers concluded that the younger age group had insufficient levels of self-care skills (Başar, 2013; Boz & Yıldırım, 2014; Özden et al., 2014; Özenç & Çekirdekçi, 2013; Sezginsoy-Şeker, 2015; Uzun & Alat, 2014). Particularly, their fine motor skills and hand-finger muscles had not sufficiently developed, thus experienced difficulties in writing (Aykaç et al., 2014; Boz & Yıldırım,

2014; Doğan et al., 2014; Öztürk & Uysal, 2013); had insufficient levels of understanding and following directives (Boz & Yıldırım, 2014); and had low basic skills such as knowing colors, numbers, large–small relations (Uzun & Alat, 2014). Teachers expressed that the game-based adaptation process implemented in the first three months of school is also not effective (Külekçi, 2013; Sezginsoy Şeker, 2015). The factors making the adaptation and preparation process ineffective include insufficiency in the adaptation, preparation of grade one programs, and physical environments (Aybek & Aslan, 2015; Bavlı & Aydın, 2015; Peker-Ünal, 2013; Ünver et al., 2014); and unpreparedness of teachers to an education process requiring age differences (Aybek & Aslan, 2015; Bavlı & Aydın, 2015; Boz & Yıldırım, 2014; Doğan et al., 2014; Sezginsoy & Şeker, 2015; Ünver et al., 2014; Uzun & Alat, 2014). So, the aforementioned research based on the opinions of teachers, administrators, and families indicate that the schools, teachers, parents, and the environment are not ready especially for the students in the younger age group.

Monthly difference is an important factor regarding student development especially at younger ages. The 24 months, or two years, of difference in this study proved to be significant. Large differences were observed in the levels of readiness and cognitive development among students having an age difference of as much as 2 years. Further, students showing normal development despite their age criteria may become problematic students; owing to their lacking readiness, they may not respond well to studying with peers from an older age group (İş Güzel, Şahin, & Konak, 2014).

In accordance with these results, the younger age group will be disadvantaged with respect to many aspects especially for the school readiness in terms of cognitive development if the "4+4+4 regulation" continues in the similar way where there is a large age distribution in classes. Thus, the authors believe that, policy makers should consider the age distributions in classes for the arrangement of educational regulations or decisions especially for the pre-school education and the elementary education, or should take some precautions to avoid large age distributions in classes.

In accordance with these results, the authors believe that, in the "4+4+4 regulation," the 60 to 72 months age range should be set as pre-school age, with primary school beginning after. Thus, the regulation should be revised as "1+4+4+4." In fact, the two-year pre-school education implemented with successful results in other countries should even be taken into consideration.

The failure to take into consideration the readiness levels of students starting school is reflected in the academic outcomes of students as well. Academic success of the students starting elementary school at younger than 69 months old is significantly lower compared with their older peers in all fields and subfields including Mathematics – Numbers, Geometry and Measurement; Turkish – Listening Comprehension, Reading Comprehension and Vocabulary; Life Science –

Knowledge Behavior and Notions. Consequently, the current findings indicate that, based on data obtained directly from students, students in the younger age group has lower academic success in all fields and subfields compared with the students in the older group who started school in SY 2012-2013. It seems that the difference on the school readiness of the younger and older groups continues on the academic success through the years of schooling. In addition, the gap in terms of the academic development of the students of younger and older groups is protected almost constantly for the semesters for all fields and subfields showing a stable trend in the academic development. Thus, the disadvantage against the younger group of students on school readiness still goes on for the academic success at elementary education throughout the two year period in all fields and subfields showing a constantly protected difference trend on academic development.

Although students in the same class are at the close-ranged, as known, students during pre-school, elementary school, and later periods shall inevitably have different characteristics, as well as different strengths and weaknesses. Even if the large age distribution in classes is avoided, of course, students in the same class will still have minor age differences. Therefore, these differences need to be taken into consideration. Teachers should individualize and differentiate education rather than implement collective teaching. Otherwise, an increase in developmental differences arising from age differences among students will be inevitable. As the students' individual differences are ignored, schools may be seen as shaping homogenous citizens. In this regard, the professional qualifications of teachers require attention, especially in their provision of individualization and differentiation in education. Teachers should be given professional training for this, and future teachers in teacher training programs should be given competencies in this respect.

The failure of the Ministry of National Education (MONE) to take school readiness as a basis in their reform and the difference exceeding two years in the schooling ages of students have resulted in significant differences in the cognitive and academic development of students. Not only taking chronological age as a basis for schooling, the MONE should execute processes for determining the readiness of the students, teachers, and families toward the learning environments and vice versa.

The present research is limited to monitoring the two-year development of the students who started school in SY 2012–2013. Their social and academic development could be further examined by monitoring throughout their elementary, middle, and high school education, and even until their graduation from university. Such a longitudinal research may thus cover the critical stages of Transition from Primary Education to Secondary Education System (TEOG), Transition to Higher Education Examination (YGS), and Undergraduate Placement Examination (LYS), among others.

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Academics' Views on the Characteristics of Academic Writing

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Abstract

Academic writing is the process of sharing original research with other scholars in accordance with certain standard rules. This process requires correctly following the steps of scientific academic writing. However, a close analysis of recent academic texts reveals a wide range of mistakes or shortcomings. The purpose of this research is to examine the characteristics of academic writing based on the views of the academicians creating it. A semi-structured interview form was created on Google Docs virtual office for this research using qualitative research methodology. Thus, 30 academicians from different cities and universities of Turkey were involved. Content analysis was used to assess the collected data. Each answer given by the academicians was placed into a category such as similarity and relatedness. These categories were transformed into tables by frequency values of the answers, and each table was supported with quotations extracted from the answers. The results show that the academicians presented the highest number of comments about the characteristics related to sections containing "methodology" and "results, discussions and suggestions." The participants also reported that in their article reviewing process, they encounter the highest number of errors in the "methodology" section, followed by errors in formal standards, spelling-punctuation / expression and academic style.

Keywords: *Academic writing, academicians, academic writing education.*

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Introduction

Writing enables human thoughts to become visible, allows them to be developed, restricted, and modified, and helps new ideas to be triggered (Fulwiler, 2002, p. 32). One of the most pivotal components to solidify thinking is academic writing. Academic writing is one of the steps of the academic research process through which scientists report situations of thinking, experience, observation, application / testing etc. as to the solution of a scientific problem identified. In addition to following the general rules of a text genre, all principles considered while reporting an academic research and process of textualizing it is called "academic writing" (Bahar, 2014, p. 213) or "scientific writing." Academic writings are "written and printed" reports (Day, 2005, p. 9) that describe "original research results", "with a strongly structured intellectual system" (Bayat, 2014: 157), that requires "logic, clarity, truth" (Aceto, 2003, p. 8) to "inquire, render unknown known, and shed light on darkness" (Karasar, 2006, p. 22).

Searching for, finding and evaluating information through mental processes and interpretation and reconstruction is one of the most crucial characteristics of academic writing. "An acceptable basic academic publication, should be 'the first explanation' that will provide sufficient information to the colleagues to help them evaluate observations, replicate experiments, and assess intellectual operations" (Day, 2005, p. 10). The phrase "first explanation" stated here indicates the need to be informed of previous studies and to say what has not been said while preparing academic writing. Therefore, the author is expected to present a different approach, idea, and experience for further research. "The written scientific text will ensure that individuals are known by their writing in building their academic career" (Murray & Moore, 2006, p. IX).

"In academic writing, it is necessary to produce logically structured ideas with well-thought-out, verified points and to consider different opinions" (Gillet, Hammond & Martala, 2009, p. 88). "What is common in all categories of academic writing is that wheres the ideas are centralized and people remain in the background, the author's personal feelings play no role whatsoever in the presentation of ideas or insights" (Monippally & Pawar, 2010, p. 77).

Academic writing has various types including theses, articles, papers, projects and posters. These types usually involve reporting a research process as a composition. Academic writing, which has a wide range of types, is regarded as a discipline in itself. This discipline contains different parts ranging from title writing to bibliography, and attributes related to their writing that include language, expression and form. With its own systematicity, the most common type of academic writing is the academic articles, because scientists publish their research reports by writing various articles throughout their academic careers (Deniz and Karagöl, 2017, p. 148). Regardless of its specific type, it

is important for any piece of academic writing to be clear, understandable, remarkable, and concise, and to be presented in a certain order by ensuring coherence and cohesion among its subsections (Akın, 2009, p. 69-72).

As Bahar put it (2014, p. 214), dimensions of an academic writing can be analyzed in four sections named as process, text, form and ethics that are shown below:

Process dimension contains the steps for reporting and publishing from a selection of the subject. The question is concerned with the process of decision-making and drafting on the basis of the audience to be addressed, identifying a course of action to be followed to achieve the intended results through the analysis of the research subject, accessing information sources, and systematizing the analysis / synthesis / evaluation/ comments based on the accessed sources.

In an academic article, whatever the attitude about the issue or the power of the assertion put forward, it is hardly possible that the available evidence is sufficient to indicate that something is absolutely correct. For this reason, it is pivotal to take a comprehensive and cautious approach that also considers exceptions (Gillet, Hammond & Martala, 2009, p. 205).

The text dimension refers to being competent about written expression from spelling-punctuation to word selection, from sentence structure to paragraph flow. To be able to say that on has a robust foundation in the creation of an academic text, s/he needs to have the basic functional writing skills at a certain level. Academic writings require a planned blending of rules of language and writing, times of action, type of discourse (subjective or objective), mastery of the specific field terminology, by following the academic stylistic standards. Bowker (2007, p. 5) emphasizes that regardless of the subject, the writer's written communication skills are very important as it is crucial that the reader understands what the writer is talking about, so developing robust writing skills as well as research skills is an important part of improving academic writing success.

Monippally and Pawar (2010, p. 78) state that academic texts are not to be superficially handled like a newspaper; they should be carefully perused and analyzed since their sentences and paragraphs tend to be longer and more complex than newspaper texts. Hogue (2008, p. 2) classifies the skills required for academic writing as sentence structure (how words in a sentence are organized), organization (how ideas in a paragraph are organized), and grammar and punctuation.

The form dimension contains visual standards other than linguistic and stylistic features. Presentation of information in a systematic order, the way of citing in the text and bibliography, basic rules applied by the journals where the article is to be published (font, font, line spacing, margins, article template etc.) are the basic elements of this form dimension. The American Psychological

Association (APA) rules are the most widely used set of standard guidelines. Murray and Moore (2006, p. 7) emphasize that to form a piece of academic text, it is necessary to sequence and present it in a disciplined and formal way.

The ethical dimension "can be explained as a set of moral rules that researchers must follow regarding the data collection, synthesis, evaluation, interpretation and publication of results in the process of seeking a solution for a problem" (Aydın, 2015, p. 39). An ethical violation occurs when impartiality becomes questionable, professional dignity, respectability and responsibility are not maintained, integrity is undermined through illegal actions, and efforts are made to obtain privileges over other researchers. "According to a report published in Turkish Academy of Sciences, the types of ethical violation encountered in academic research are classified as duplication, slicing, not specifying the supporting institution, removing the names of active contributors, changing the order of authors or adding authors, and secrecy" (Kozak, 2014, p. 192-198).

The literature on scientific/academic writing shows that the number of scientific studies in Turkey is very limited. These studies generally focus on article review forms (Deniz and Karagöl, 2017), the effect of reflective teaching on academic writing skills (Aydın, 2017), the relationship between critical thinking and academic writing success (Bayat, 2014), views on academic writing and processes of building a thesis (Kan ve Gedik, 2016), postgraduate students' metaphorical perceptions of academic writing (Aydın and Baysan, 2018), some fundamental principles of scientific writing (Ekmekçi and Konaç, 2009), and the importance of academic writing in postgraduate education (Bahar, 2014). In addition to these, there are also meta-analyses of academic texts (See, Sevim and Özdemir-Erem, 2012; Kan and Uzun, 2014-2015-2016; Aktaş and Uzuner-Yurt, 2015; Kara and Öztürk, 2015; İşeri and Şen, 2017; etc.).

Writing is often described as a challenge and sometimes an obligatory dimension of academic life. Analyzing complexities and paradoxes of writing can help further refine the situation for most academicians in a wide range of different contexts (Murray & Moore, 2006, p. 4). Although studies on the subject are limited, there is a striking number of writing errors and deficiencies in scientific publications, which underscores the importance of the present study of academic texts.

Purpose of the research

The aim of this research is to examine the characteristics of academic writing based on the views of academics. To this end, the following questions were asked:

1. What are academic staff's views about the formal features that should be included in academic texts?

2. What are academic staff's views about the linguistic and stylistic features that should be included in academic texts?
3. What are academic staff's views about the ethical principles that should be followed in academic texts?
4. What are academic staff's views about the features that should be included in the "abstract" section of the academic texts?
5. What are academic staff's views about the features that should be included in the "introduction" section of the academic texts?
6. What are academic staff's views about the features that academic texts should have in their "problem statement"?
7. What are academic staff's views about the features that academic texts should have in their "statement of purpose"?
8. What are academic staff's views about the features that should be included in the "method" section of the academic texts?
9. What are academic staff's views about the features that should be included in the "findings" section of the academic texts?
10. What are academic staff's views about the features that should be included in the "results, discussion and suggestions" section of the academic texts?
11. What are academic staff's views about the features that should be included in the "bibliography" section of the academic texts?
12. What are the errors that attract academic reviewers' attention?

Method

Research Design

The case study approach was adopted as a qualitative research method in line with the purpose of the study. "Qualitative research is a type of research where qualitative data collection methods such as observation, interview and document analysis are used and a qualitative process is carried out to determine perceptions and events in a natural and realistic manner" (Yıldırım and Şimşek, 2006, p. 39). Emphasis is placed on studying what is experienced in a certain situation, rather than generalizing it (Denzin and Lincoln, 1985, p. 435).

Participants

This study was implemented with 30 academic staff from different cities, different universities, and different departments, who filled out a semi-structured interview Google Docs form via web-based virtual office in April 2018. Convenience sampling was used in the research. This method of sampling is preferred because of it affords higher speed and practicality, incurs less cost, and it is easier for researchers to study a familiar sample (Yıldırım & Şimşek, 2006). The distribution of the participants by gender is as follows:

Table 1. Distribution of the participants by gender

Gender	**(f)**	**%**
Female	8	26.7
Male	22	73.3
Total	**30**	**100**

The distribution of the participants by age is as follows:

Table 2. Distribution of the participants by age

Age Range	**(f)**	**%**
26-30	5	16,7
31-35	6	20,0
36-40	5	16,7
41-45	8	26,7
46-50	4	13,3
51-55	1	3,3
55-60	1	3,3
Total	**30**	**100**

The distribution of the participants by their level of education is as follows:

Table 3. Distribution of participants by their education level

Level of education	**(f)**	**%**
Master's degree	4	13,3
Doctorate	26	86,7
Total	**30**	**100**

The distribution of the participants by the universities they work for is as follows:

Table 4. Distribution of the participants by university

University	**(f)**	**%**
Abant Izzet Baysal University	1	3,3
Adnan Menderes University	1	3,3
Adıyaman University	4	13,3
Mediterranean University	1	3,3
Amasya University	1	3,3
Anadolu University	1	3,3
Ataturk University	1	3,3
Bozok University	1	3,3
Cukurova University	2	6,7
Dokuz Eylül University	1	3,3
Fırat University	2	6,7
İnönü University	2	6,7
Istanbul Aydin University	1	3,3
Istanbul University	1	3,3
Kafkas University	1	3,3
Kahramanmaras Sutcu Imam University	1	3,3
Kastamonu University	1	3,3
Kilis 7 Aralik University	1	3,3
Mersin University	1	3,3
Mustafa Kemal University	1	3,3
Necmettin Erbakan University	1	3,3
Nevsehir Haci Bektaş Veli University	1	3,3
Niğde Ömer Halis Demir University	1	3,3
Yildiz Technical University	1	3,3
Total	**30**	**100**

The distribution of the participants by their academic fields is as follows:

Table 5. Distribution of participants by academic field

Academic field	**(f)**	**%**
Educational Sciences and Teacher Training	20	66,7
Social, Humanities and Administrative Sciences	5	16,7
Philology	4	13,3
Agriculture, Forestry and Aquaculture	1	3,3
Total	**30**	**100**

The distribution of the participants by their departments is as follows:

Table 6. Distribution of the participants by department

Department	**(f)**	**%**
Turkish and Social Sciences Education	17	56,7
Turkish language and literature	2	6,7
Department of Educational Sciences	2	6,7
Basic training	1	3,3
Turkish language and literature	1	3,3
Tourism	1	3,3
International Relations	1	3,3
Foreign Languages	1	3,3
Cultivation and Diseases (Aquaculture)	1	3,3
Contemporary Turkish Dialects	1	3,3
Economy	1	3,3
Business Administration	1	3,3
Total	**30**	**100**

The distribution of the participants by the types of their published academic texts is as follows:

Table 7. Distribution of participants by academic texts they published

Academic writing type	**(f)**	**%**
Thesis	28	93.3
Article	30	100
Book / Book Section	26	86.7
Conference paper	29	96.7
Report	12	40
Project	18	60
Referee, Jury Member, Committee Member	1	3.3

The distribution of the participants by the number of their published academic studies is as follows:

Table 8. Distribution of participants by the number of published academic studies

Number of academic studies	(f)	%
6-10	7	18,4
11-20	4	10,5
21-30	6	15,8
41-45	8	21,1
31-40	3	7,9
41-50	4	10,5
51-60	1	2,6
61-70	3	7,9
100-120	2	5,3
Total	**38**	**100**

The distribution of the participants by their refereeing status is as follows:

Table 9. Distribution of the participants by refereeing status

Referee status	(f)	%
I did	25	83.3
I did not	5	16.7
Total	**30**	**100**

The distribution of the participants by the number of manuscripts they reviewed is as follows:

Table 10. Distribution of the participants by their number of refereeing

Number of Refereeing	(f)	%
0-5	4	15,4
6-10	5	19,2
11-15	6	23,1
16-20	5	19,2
31-40	1	3,8
100	3	11,5
101-200	1	3,8
500	1	3,8
Total	**26**	**100**

The distribution of the participants by their thesis supervision status is as follows:

Table 11. Distribution of participants by thesis supervision status

Thesis supervision status	**(f)**	**%**
Yes	15	50
No	15	50
Total	**30**	**100**

Data Collection

In this study, a semi-structured interview form was used as the data collection tool. In a semi-structured interview, "researcher prepares a protocol of interviews with questions that they plan to ask in advance" (Türnüklü, 2000, p. 547). The experts were consulted about whether or not the open-ended questions in the semi-structured interview form were appropriate for the aim of the study. In this way, the content-scope validity of the questions in the semi-structured interview form were verified through expert opinions. A total of 12 questions about academic writing characteristics and personal information (sex, age, education level, academic field, department of study, academic studies, number of academic studies, refereeing status, number of refereeing, thesis supervision status) were included. The data were collected on 5-10 April 2018, by sending the Google Docs form entitled "Views of Academics on the Characteristics of Academic Writing" to the academic staff participating in the study.

Analysis of Data

In the qualitative research design, it is very important to explain and describe, without prejudice and distortion, both the clearly expressed and implied views of the participants on the topic of research (Charmaz, 2006). Therefore, the data were analyzed by content analysis. "The basic process in content analysis is to put together similar data within the framework of specific concepts and themes and to interpret them in a way that readers can understand" (Yıldırım ve Şimşek, 2006, p. 27).

The semi-structured interview form was given to 30 volunteering academics. The responses of these participants were then examined and classified under the categories identified based on similarity and relatedness; words and phrases were used as data analysis units; and wherever possible the expressions used by the participants were used in coding. The data were presented in tabular form with frequency values. In addition, the data were presented by direct quotations from academicians' expressions. In citing direct quotations, each academic was given a code name (P1: Participant 1) so that the identities of the participants were kept confidential. At the end of the analysis process, three

experts were asked to analyze each participant's statements, and the degree of inter-reliability was found to be quite high.

Findings

The analysis of the interviews revealed that some of the academics reported multiple views for a question and some did not answer some of the questions. For this reason, the tabulation of the data was based on the number of responses, not by the number of respondents. The results are presented in Table 12.

Table 12. Views on formal features that should be included in academic texts

Formal features	**(f)**
Use of visual elements	12
Segmentation/ entitling	12
Appropriateness for the journal	9
International criteria (APA etc.)	5
Spelling-punctuation	4
Underestimating formal features	1
Total	**43**

30 participants shared their views on the formal features that should be included in academic writing. These opinions are classified in six basic categories. Considering the frequency values, *use of visual elements* was mentioned 12 times, *segmentation / entitling* 12 times, *appropriateness for the journal* 9 times, *international criteria* 5 times, *spelling-punctuation* 4 times, and *underestimating formal features* was stated for once. Some of the statements expressed by the participants regarding this formal dimension are as follows:

"Font, margins, paragraph spaces, items, etc. that are appealing and regular" (P10)

"There should be an order in the form of title, abstract, introduction, problem statement, purpose, method, findings, conclusion, discussion and suggestions. An extended abstract or a full-text version of the English version of the work can be added if so required by the journal." (P16)

"Standards that are set by the publishing organization." (P12)

"These can be arranged in accordance with the journal" (P28)

"An academic publication should be written according to internationally accepted criteria." (P7)

"Formal features are a detailed issue. In this regard, an up-to-date APA handbook should be referred." (P24)

"All of the writing rules." (P6)

"Writing without spelling errors and by following the plan." (P31)

Nearly all of these views concentrate on what should be. One participant criticizes the strict requirements of *international criteria (APA, etc.),* while another participant thinks that form is not that important:

"APA etc. style should not be imposed. There must be options." (P8)

"I never thought these features were not important to me. In fact, journals or institutes publish these rules, and we follow these rules." (P13)

Table 13. Views on linguistic and stylistic features that should be included in academic writing

Linguistic and stylistic features	**(f)**
Clarity	18
Academic language	18
Avoiding incoherency	8
Mastery of the field	7
Using daily /ostentatious language	1
Absence of intervention	1
Total	**53**

30 participants expressed views on the linguistic and stylistic features that should be included in the academic writing. These opinions are classified in six categories. When the frequency values of these were examined, there *clarity* occurred 18 times, *academic language* 18 times, *avoiding incoherency* 8 times, *mastery of the field* 7 times, *using daily / ostentatious language* 1, and *absence of intervention* 1 time. Some representative quotations from data on this subject are as follows:

"I suggest using a plain, understandable language. Attention should be paid to the use of references and citation. Binding clauses must be included between the parts." (P11)

"...the verb must be used in passive form without the use of personal suffixes" (P16)

"The most striking mistake in the field of social sciences is not using the third person language. Instead of 'we found the following results in this study', 'the following results were found in the research' is more appropriate and scientific" (P26)

"An academic writing should use a concrete, easy-to-understand style appropriate to the literature of the area concerned" (P18)

"Academic terms on the subject should be used..." (P23)

"There should not be any organizational or structural error." (P2)

"...the sentences appropriate to the Turkish syntax should be constructed, and a language that the reader cannot understand should not be used." (P29)

"...the rules of language and writing must be strictly observed." (P14)

"Writing rules should be observed..." (P28)

In addition to these views, some opinions that would be unacceptable for academic writing were also stated. These are:

"Instead of the too dry and didactic style of our academic life, the words that people use should be a little more colorful, more proverbial and more idiomatic." (P24)

"...As long as the objectivity is preserved and remains within these boundaries, the style of the academic should not be intervened ." (P13)

Table 14. Views on ethical principles that should be followed in academic writing

Ethical principles	**(f)**
Avoiding plagiarism	18
Citation and reference	14
Originality	5
Obtaining permissions	3
Acknowledging the contributors	3
Avoiding distortion, diversion or deception	2
Accurate, reliable, unbiased presentation	2
Avoiding the use of improper method	1
Integrity	1
Not publishing just for academic incentives or for increasing publication quantity	1
Avoiding self-plagiarism	1
Paucity of bibliography/ references	1
Total	**52**

30 participants expressed their views on the ethical principles to be followed in academic writing. These views are classified in twelve main categories. Considering their frequencies in the dataset, *avoiding plagiarism* occurs 18 times, *citation and referencing* occurs 14 times, *originality* 5 times, *obtaining permissions* 3 times, *acknowledging the contributors* 3 times, *avoiding distortion, diversion or deception* twice, accurate, reliable, unbiased presentation twice, *avoiding the use of improper method* once, *integrity* once, *not publishing just for academic incentives or for increasing publication quantity* once, *avoiding self-plagiarism* once, *paucity of bibliography/references* once. Some of the academic staff's views on this subject are as follows:

"Plagiarism must be taken into account." (P2)

"To cite the references appropriately and completely, to make a contribution to the field through the originality of the study, to cite all the primary and secondary sources throughout the text and in the references section" (P18)

"...should be original by avoiding replication of the same studies" (P9)

"...permission must be obtained from everyone involved in the research." (P5)

"...the name of everybody that makes any amount of contribution to it must be in the text." (P13)

"...research that is not based on field work must not be presented as such, and data must not be fabricated (which is done)" (P9)

"Accuracy, reliable data, unbiased presentation." (P21)

"...do not mention an inaccurate method in the methodology section, do not present false (unused) information..." (P16)

"...Most importantly, academic work should not be conducted by subcontracting and paying others (or by exploiting personal networks) and not be mispresented as original personal work." (P23)

"...Most importantly, academic work should not be done to obtain personal benefits (for incentives, inflating the number of publications) rather than creating scientific value! A genuine problem should be identified and a real result oriented towards that problem should be presented, at least one or two suggestions focusing on the solution must be proposed." (P28)

"...It is also necessary that an author should always cite references, even if s/he quotes it from her/his own work. It is possible to encounter the same sentences or even the same parts in different works written by the same author. To say the least, this is simply cutting corners." (P26)

Despite the general belief that the number of sources cited in a scientific study is directly proportional to its quality, a participant expressed a contrary opinion:

"There should be few quotations and their original sources should always be indicated." (P4)

Table 15. Views on features that should be included in the "abstract" section of academic texts

Abstract section features	**(f)**
Covering outline of research	25
Clarity	4
A clear explanation of topics	3
Absence of quotations	3
Evoking curiosity in readers	2
Key words	2
Avoiding repetition	1
Total	**40**

A total of 30 participants commented on the features that should be included in the "abstract" section of an academic paper. These views are classified in seven categories, whose frequencies from the highest to the lowest rank as follows: *covering outline of research* (25), *clarity* (4), *a clear explanation of topics* (3), *absence of quotations* (3), *evoking curiosity in readers* (2), *key words* (2), and *avoiding repetition* (1). Reagarding this subject, some of the participants commented as follows:

"It should reflect the general outline of the research. All parts should be addressed." (P4)

"In the abstract, I clearly express the purpose, scope and method of my study, and I highlight the key points representing the main text." (P6)

"Explaining the study in the shortest and clearest way" (P21)

"Explaining the subject that I'm dealing with..." (P9)

"Purpose, scope, limitations" (P11)

"I make sure that the first paragraph of the introduction consists of my own words, and the problem in the last paragraph is defined and composed with my own words without quoting." (P14)

"We make a point of writing a few sentences that will draw the curiosity of readers about the importance of the research, the reason for its conduct, the methods and results, without focusing too much on the details." (P7)

"...I definitely place 3-5 keywords under the abstract. I try to use the phrases in the title when choosing keywords." (P8)

"...the sentences in the main body of the text must not be repeated verbatim in the abstract" (P29)

Table 16. Views on the features that should be included in the "introduction" section of academic texts

Introduction section features	**(f)**
Subject	20
Literature	10
Avoiding redundancy	6
Statement of problem	5
Significance	3
Purpose	3
Limitation/s	1
Total	**48**

30 participants shared their views on the features that should be included in the "introduction" section of an academic text. These views are classified into seven major categories, which rank by frequency from the highest to the lowest as follows: *subject* (20), *literature* (10), *avoiding redundancy* (6), *statement of problem* (5), significance (3), *purpose* (3) and *limitation/s* (1). Some of the academic staff's views on this subject are as follows:

"I try to explain it in its simplest form." (P13)

"I emphasize the information in the relevant literature that provides the current and scientific basis for the subject." (P16)

"I try to access the basic and current sources." (P1)

"I make sure to present an adequate review on the basis of reliable and up-to-date information regarding the purpose and the subject of the study" (P18)

"Instead of using the commonplace and de facto expressions which move from a broader to narrower focus, I try to get to the heart of the matter and state the research problem directly..." (P8)

"The introduction should not be like a Turkish poem that describes the first two verses of the quartet, which are of interest to folk literature genres. In other words, instead of pouring down all the collected materials into the text, it should be prepared by clearly outlining the general and specific scope of the study, with a keen attention to arrange it from more general to more specific before getting into the main subject." (P26)

"Just as I do for the abstract, I try to write the reasons that have motivated me to do this work in an interesting way..." (P11)

"...it must present evidence for why you needed to conduct the study..." (P29)

"The purpose and the significance of the study must be established with support from other research in the literature." (P21)

Table 17. Views on the features that academic texts should include in "problem statement"

Problem statement features	**(f)**
Clarity	10
Appropriateness for the purpose of the study	10
Reflecting the scope / abstract of the study	9
Forming research questions	4
Originality	2
Relevance to the title	2
Total	**37**

A total of 30 participants commented on the features of academic writing that should be included in the "problem statement". These opinions are classified in six basic categories. The frequency values of these categories reveal the following ranking from the highest to the lowest: *clarity* (10), *appropriateness for the purpose of the study* (10), *reflecting the scope / abstract of the study* (9), *forming research questions* (4), *originality (*2), and *relevance to the title* (2). Some participant views on this subject are as follows:

"Due care must be taken to ensure that the statement describes the problem in a clear and understandable way." (P6)

"I try to form my research problem by forming a question and paying attention to create it in a way that it will address the purpose." (P1)

"I try to answer the question of 'what kind of a problem has been found and planned in the field?' I point out the detected errors, deficiencies, gaps, etc. in the field and I explain my study as one way of addressing this deficiency." (P9)

"I write a question sentence that includes the study group and the context in line with the research purpose." (P14)

"I give information about how this study differs from the previous research done so far and which gap it will fill in the literature." (P11)

"I make sure that the problem is in accordance with the title." (P13)

Table 18. Views on features that the academic texts should include in the "statement of purpose"

Statement of purpose features	**(f)**
Clarity	15
Reflecting the abstract	11
Contribution to the field	4
Appropriateness for the problem	2
Originality	1
Total	**33**

28 participants expressed their views on the features of academic writings that should be included in the aim statement. These views are classified in five basic categories. When the frequency values of these were examined, *clarity* was 15, *reflecting the abstract* 11, *contribution to the field* 4, *appropriateness for the problem* 2, and *originality* 1. Some participants' views on this subject are as follows:

"It must be explanatory and the problem in question must be expressed accurately and completely." (P6)

"The purpose must be clear and understandable; it is very important that the aim of the research is explained with regards to its significance. If there are more than one sub-purpose,

they must be also be stated. The points that the study will address and serve have to be clearly stated." (P9)

"It must state which gap in the literature the study will fill, and it must articulate the need for the study in a clear and simple way." (P27)

"It should be appropriate for the problem." (P13)

"It must focus on conveying the originality and the research purpose of the study in the clearest and most comprehensible language possible." (P25)

"It should parallel the results." (P18)

Table 19. Views on features that should be included in the "method" section of academic texts

Method section properties	**(f)**
Method selection	17
Describing the method	13
Research design	8
Data collection	8
Data analysis	7
Universe-sample / study group	6
Validity and reliability	5
Citations	5
Total	**69**

29 participants commented on the features that should be included in the "method" section of an academic paper, which fall into eight major categories. Considering their frequencies in the dataset, these textual features rank as follows: *method selection* (17), *describing the method* (13), *research design* (8), *data collection* (8), *data analysis* (7), *universe-sample / study group* (6), and *validity and reliability* (5), *citations* (5). Some of the participants' views on this subject are as follows:

"I make sure that I choose the correct method, and apply it in a systematic way by following its principles." (P5)

"First, I determine the method that is appropriate for the nature of my research. I describe this method by citing the experts in the field. Relating them to the process of my own study, I then describe each step of the research design, the study group, the data collection technique, and the data analysis, by citing the experts." (P9)

"The method should be described in as much detail as possible so that it is replicable and verifiable by other researchers as well." (P22)

"I try to clearly describe the research elements like the study group, collection of data and analysis." (P18)

"I pay attention to the steps to be followed in the research, the research design, and the reliability and validity." (P26)

"I will pay attention to how and with which means the work will be conducted." (P20)

"I make sure to write the data collection and analysis parts in a complete and comprehensible manner. In doing so, I base them on scientific resources by making relevant citations." (P15)

Table 20. Views on features that academic texts should include in the "findings" section

Findings section properties	**(f)**
Truthful reporting of data	12
Clarity	9
Order	6
Relevance to purpose	5
Using visuals	4
Interpretation	3
Originality	1
Total	**40**

28 participants gave their views on the features that should be included in the "findings" section of the academic literature. These views are classified in seven basic categories. Considering their frequencies in the dataset, these textual features rank as follows: *Truthful reporting of data* (12), *clarity* (9), *order* (6), *relevance to purpose* (5), *using visuals* (4), *interpretation* (3), *originality* (1). Some participants' views on this subject are as follows:

"I pay attention to be truthful to the data." (P3)

"I first explain what I have obtained in an objective way, then I interpret what it means in terms of theory and practice." (P10)

"I pay attention to report the findings in a clear, comprehensible and complete manner." (P13)

"I take care to present the findings clearly." (P17)

"I try to give the findings in the same order as the research questions, and try not to give any information beyond the scope of the study..." (P8)

"I try to make sure that the findings are systematically presented. If I seek answers to different problems, I present the findings under individual headings." (P26)

"I pay attention to include the data that serve the purposes of the study, and explain them in a clear scientific language." (P16)

"To improve comprehensibility, I include figures, tables and graphs wherever needed." (P14)

"I definitely make sure to add my comments to the findings." (P27)

"Associated with the problem statement, I include especially striking or divergent data not previously encountered in the literature." (P19)

Table 21. Opinions about the features that academic texts should have in the "conclusion, discussion and suggestions" section

Conclusion, discussion and suggestions section features	**(f)**
Conclusion	
Presentation of findings	14
Inferences	5
Contribution to the field	3
Use of a clear language	3
Stating the limitations of the study	2
Reaching acceptable conclusions	2
Avoiding definite statements	1
Avoiding repetition	1
Discussion	
Comparison	20
Currentness	2
Suggestions	
Making suggestions related to the problem/ sub-problems	7
Presenting applicable suggestions	5
Creating horizons for future researchs	4
Making original suggestions	1
Total	**70**

30 participants expressed their views on the features of academic writings that should be included in the "conclusion, discussion and suggestions" section. These opinions fall into fourteen main categories. Considering their frequencies in the dataset, these textual features rank as follows: *presentation of findings* (14), *inferences (*5), *contributing to the field* (3), *use of a clear language* (3), , *stating the limitations of the study* (2), *reaching acceptable conclusions* (2), *avoiding definite statements* (1), *avoiding repetitions* (1); *comparison* (20), *currentness* (2); *making suggestions related to problem/ sub-problems* (7), *presenting applicable suggestions* (5), *creating horizons for future researchs* (4), and *making original suggestions* (1). Some participants' views on this subject are as follows:

"I try to make conclusions by reflecting the findings obtained, and making inferences based on the results of the other studies." (P5)

"I try to make the conclusion section relevant to the findings, and to express the results effectively, to avoid definitive statements, to present overlapping and divergent aspects of my results with similar research, and not to make suggestions outside the scope of the article." (P9)

"I pay attention to the similarities to and differences from the previous studies and to make a new contribution to the field." (P3)

"Thinking pragmatically, I make sure to express the results I have obtained as clearly as possible, and to be realistic in my suggestions." (P30)

"...I describe the shortcomings of my study and specify points that should be taken into consideration in future research." (P11)

"There must be correct and acceptable findings." (P25)

"I try to avoid making the conclusion section a repetition of the findings..." (P28)

"In the discussion section, similar ideas should not be repeated but be synthesized. By comparing opposing views, references should be made to the studies supporting the obtained findings..." (P8)

"In the discussion part, I make sure to cite all the research that supports my own study and to access the current sources..." (P16)

"Care should be taken to base each conclusion on a finding, and then propose suggestions according to the research sub-problems." (P6)

"I make sure that the conclusion is substantial, and the discussion is multifaceted. I present the suggestions in a feasible and applicable way." (P4)

"The conclusions must be based on the findings. One of the conclusions must include the future studies to be conducted. Researchers interested in the subject should be directed to new research." (P20)

"It is important that the suggestions must be clear and original, and not to be repetitive." (P10)

Table 22. Views on features that should be found in the "bibliography" section of academic texts

Bibliographic section features	**(f)**
Usage of in-text citation	14
Formal consistency (using journaling rules, APA, etc.)	14
Using the accurate / related sources	11
Using current sources	5
Using a sufficient number of sources	3
Putting references in alphabetical order	3
Using full references	2
Including the secondary sources in the bibliography	2
Using indenting properly	1
Paying extra attention to using Turkish sources	1
Total	**56**

28 participants reported on the features that should be included in the "bibliography" section of an academic text. These views are classified in ten major categories. Ranked from the highest to the lowest frequency, these categories are distributed as follows: *usage of in-text citation* (14), the *formal consistency (using journaling rules, APA, etc.)* (14) *using the accurate/ related resources* (11), *using current sources* (5), *using a sufficient number of sources* (3), *putting references in alphabetical order* (3), *using full references* (2), *including the secondary sources in the bibliography* (2), *using indenting properly* (1), and *paying extra attention to use of Turkish sources* (1). Some statements made by the participants regarding this subject are as follows:

"I make sure that everything I quoted in the text is in the bibliography and that every reference in the bibliography is in the text..." (P10)

"I make sure that it conforms with the writing rules of the publishing journal and the degree it benefits from the existing research." (P1)

"I pay attention to citing according to the APA criteria, to match in-text references with the bibliographical references, and to sort resources in an alphabetical order." (P8)

"I take care to include as much of the primary resources as possible in the bibliography, to cite the most current research, and to arrange the bibliography in accordance with the rules of the journal and the APA." (P16)

"The primary sources rather than secondary sources must be used at all times. If such primary sources cannot be accessed, detailed information about the secondary source must be provided." (P7)

"The references cited in the bibliography must be of sufficient number and must adequately reflect the scope of the problem. The most important and fundamental sources of relevant research must be cited." (P21)

"I check and make sure that all the references I have used are in alphabetical order." (P28)

"I make sure that the all the information in the bibliography is complete." (P27)

"I make sure that I have ordered and formatted the bibliography correctly. I use an alignment tab if the reference is longer than a line. It looks better." (P9)

"I prefer Turkish rather than foreign sources." (P5)

Table 23. The errors that attracted participants' attention as referees

Errors detected	**(f)**
Method section	9
Formal standards	6
Spelling-punctuation	6
Scientific style	5
Inadequate review of the literature	4
Subject selection	3
Discussion section	3
Violation of Ethics	3
Stating purpose	2
Insufficiency in the area of expertise	2
Lack of interpretation	2
Redundancy of statistical information	2
Abstract writing	1
Introduction section	1

Suggestions section	1
Use of irrelevant sources	1
Failing to synthesize the quoted information	1
Total	**52**

24 participants gave their opinions on the errors that caught their attention in the academic texts. These opinions are classified under seventeen headings. Considering their frequencies in the dataset, these textual features rank as follows: *method section* (9), *formal standards* (6), *spelling-punctuation* (6), *scientific style* (5), *inadequate review of the literature* (4), *subject selection* (3), *discussion section* (3), *violation of ethics* (3), *stating purpose* (2), *insufficiency in the area of expertise* (2), *lack of interpretation* (2), *redundancy of statistical information* (2), *abstract writing* (1), *introduction section* (1), *suggestions section* (1), *use of irrelevant sources* (1), *failing to synthesize the quoted information* (1). Some quotes from the participants on this subject are as follows:

> *"The methodology section in particular is either missing or totally absent in some articles." (P1)*
>
> *"I think the basic problem is the lack of mastery of the research methodology. I have analyzed many studies that had problems in choosing the right method and applying it according to the research procedure. I also think that some people seems to think that placing a series of quotations in the text is a virtue in itself. I think it is very important to present quotations by synthesizing them and interspersing personal comments throughout." (P7)*
>
> *"During my reviewing work, I have seen that some manuscripts do not follow the article format (introduction, method, findings, conclusion and discussion). I have observed that very little attention is given for academic discussion especially in the conclusions section, and some studies do not even offer any suggestions." (P14)*
>
> *"Spelling mistakes. Sloppy expressions that may undermine objectivity." (P9)*
>
> *"Sloppiness, haste, lack of academic style." (P2)*
>
> *"There are not many current issues. (Research) just seems to be re-application of the old subjects and methods to another subject repeatedly. Authors write articles without reading all the relevant literature or the important sources regarding the subject."(P16)*
>
> *"Introduction and discussion parts are too short and out of date."(P12)*

"Failing to express the purpose and to comply with the general rules of article writing, and the wrong and unnecessary use of terminology."(P18)

"Academic writing rules, mastery of the subject, the contribution that the study makes to literature, and its originality are not taken into account." (P23)

"Inadequacy of the background, inadequate literature review, carelessness, inability to interpret (the results), etc…" (P6)

"Those who are good at statistics can turn anything into an article. That does not sound very ethical to me. Experimental practices in the field of social sciences just seem like cutting corners." (P24)

"Exclusion of the bibliographical references from the main text, the mismatch between the problem and the purpose, not specifying the method in the abstract" (P3)

"Especially Turkish researchers discuss the subject by talking about its history since time immemorial and beat about the bush. Only the studies that are directly related to the research topic on hand should be cited. "(P19)

"One common mistake is citing research that is not directly relevant to the research subject for the sake of providing a rich bibliography. The existence of studies that do not aim at a specific purpose, that do not clarify anything in the field, and are conducted just for sake of being conducted is also notable." (P22)

Conclusion, Discussion and Suggestions

This study, in which the academic writing characteristics were evaluated based on the views of academics, found out the following results:

In their views regarding the "formal features" of academic writing, the academics highlight *use of visual elements, segmentation/ entitling, appropriateness for the journal, the international criteria* and *spelling-punctuation*. Only one participant reported that the formal features were insignificant, which is supported by Bahar's (2014) statement that many researchers believe that formal rules are insignificant, that they should focus more on content, and that they do not care about style.

The opinions expressed on the "linguistic and stylistic features" of the academic texts emphasize *clarity, academic language*, and *avoidance of incomprehensibility*, and *mastery of the field*. These are important linguistic features in creating academic texts. However, the view expressed by

one participant that a *daily / ostentatious language* should be used when writing an academic article, and the view expressed by another participant that aouthors' language and style *should not be interfered* with are unacceptable for academic texts because the language of the academic writing is formal. Tompkins (2009) stresses the fact that there is a difference between the academic language and the everyday language in terms of usage of words, sentences, and perspectives. As a matter of fact, referee evaluation reports always contain *language and expression* category (Deniz and Karagöl, 2017).

In their views on "ethical principles" that must be adhered to in academic writing, the academics highlighted the importance of avoiding plagiarism, using proper citation and references, originality, obtaining permissions, acknowledging the contributors, avoiding distortion/diversion and deception, correct/ reliable/ neutral presentation, avoiding improper methodology, integrity, not publishing just for academic incentives or for increasing publication quantity, and avoiding self-plagiarism. All these are views are acceptable, considering that the factor of ethics is directly related to all research stages from the planning of the research to its reporting and sharing, ethics influences the whole nature of the research (Kansu, 2009; Deniz and Karagöl, 2017). It is controversial that one participant emphasized the need for limiting the extent of bibliography (i.e. the number of references should be low) because the scientific validity of study is directly proportional to how many resources directly related to the subject are cited and used by summarizing and synthesizing them.

In their views regarding the "abstract" section, the academics underscored *covering outline of research, clarity, a clear explanation of topics, absence of quotations, evoking curiosity in readers, key words* and *avoiding repetition*. Abstracts should be seen as "a generalized evaluation based on information from other parts of the study" (Gillet, Hammond & Martala, 2009, p. 232), "a reduced form of the article" (Day, 2005, p. 31). It is remarkable that the participants put particular emphasis on this.

Views regarding the "introduction" part of an academic writing highlight *subject*, literature, *avoiding redundancy, statement of problem, significance, purpose and limitations*. Ocak (2010) lists components of the introductory section as the research problem, the previous studies that address the same problem, shortcomings in the previous research, the importance of the study for the reader, and the purpose of the study. It is very important to establish the correct theoretical framework while writing the introductory section, which is ensured by reviewing the relevant literature. Generally, "researchers who are confronted with a large number of sources related to the research topic risk wasting most of their time by getting lost among these sources; therefore, in order to minimize such waste of time, they need to classify their sources in a systematic way" (Dinler, 2012, p. 72).

Regarding the "problem statement", the academics emphasized *clarity, appropriateness for the purpose of the study, reflecting the scope/abstract of the study, forming questions, originality, and being relevant to the title*. In view of the statement of "purpose features" that academic texts should have, *clarity, reflecting the abstract, contribution to the field, appropriateness for the problem, and originality* are highlighted.

In their views regarding the "method" section of an academic text, the academics underlined the importance of *selection of methodology, describing the method, research design, data collection, data analysis, universe-sample/ study group, validity and reliability, and citation.* The method, which means the pathway to be followed in order to obtain valid and reliable results from the research to be done, "is an actional and intellectual process involving ways of describing and explaining commonly used by the sciences" (Büyüköztürk et al., 2012, p. 7). This process has to be shaped before the research, and changes can be made in the process if needed. The views expressed by the participants all include elements that should be included in the method section of a research.

In view of the characteristics of the "findings" section of academic texts, academics underscored *truthfulness to data, clarity, order, serving the purpose, using visuals, interpreting and originality*. *Truthfulness to data*, on which majority of the participants placed a strong emphasis, refers to the data being analyzed and represented without prejudices or beliefs. Using a clear, understandable language, and presenting the data in the same systematic order as that of the research questions will strengthen the semantic relationships in the reader's mind.

In their views regarding the features to be included in the "conclusion, discussion and suggestions" section of the academic texts, the participants drew attention to the importance of *presenting the findings, making inferences, contributing to the field, using a clear language, stating the limitations of the study, reaching acceptable conclusions, avoiding definite statements, and avoiding repetition* with particular reference to the "conclusion" dimension. As regards the "discussion" dimension, they highlighted *comparisons* and *currentness*. And concerning the dimension of "suggestions", they pointed out to the importance of *making suggestions related to problem/ sub problems, presenting applicable suggestions, creating a horizon for future research* and *making original suggestions*. According to Dura (2005, p. 347), the three components of the conclusion part are *summary* (summarizing the information provided up to the conclusion section), *verdict* (responding to what the researcher has done), and *suggestions* (including the use of research findings and proposals for new research). It should be noted here that the verdict also includes, by comparison with other studies, what the research explains and does not explain. The most common opinions about the conclusions, discussions and suggestions section are *comparison* of the results in the "discussion" section with other research results in the literature, and *presenting the findings* in the dimension of

"conclusion". It is noteworthy that such insightful conclusions about "discussion" arise, although it is generally considered as a particularly neglected section in the academic texts written by Turkish researchers. On the other hand, participants stressed the necessity of not producing a conclusion that is irrelevant to the findings obtained.

In their views regarding the “bibliography” section, the participants stressed the *usage of in-text citation*, the *formal consistency*, *using accurate/ related resources*, *using current sources*, *using a sufficient number of sources*, *putting references in alphabetical order*, *using full references*, *including the secondary sources in the bibliography*, *using indenting properly*, and *extra attention to use of Turkish sources*. "To satisfy the ethical and legal obligations, to demonstrate the scientific value of the research, to support the validity and reliability of the opinions of the researcher, to show whether or not the researcher has the mastery of the resources, to determine the truthfulness of the researcher to the resources in question, and to guide future researchers on the sources that they can use, it is important to specify the source" (Dinler, 2012, p. 178). All of the arguments put forward by the participants reflect the whole set of rules that must be followed while creating the bibliography section. However, one participant's preference to use Turkish source does not overlap much with the widely adopted scientific practices. Because science is not peculiar to a language or nationality, it is universal. In this respect, it would produce better results to use any accessible source about the research subject without linguistic prejudice or discrimination.

Ranked from the most frequent to the least frequent, the views in the data display the following pattern: *results, discussion and suggestions* section (70), *method* section (69), *bibliography* section (56), *linguistic and stylistic features* (53), *ethical principles* (52), *introduction* section (48), *formal* features (43), *abstract* section (40), *findings* section (40), *problem statement* (37), and *purpose statement* (33).

Finally, regarding the common errors in the academic texts that academics have studied as referees, they highlight *the method section, formal standards, spelling-punctuation, scientific style, inadequate review of the literature, subject selection, discussion section, ethical violation, stating purpose, insufficiency in the area of expertise, lack of interpretation, redundancy of statistical information, abstract writing, introduction section, suggestions section, use of irrelevant sources, and failing to synthesize the quoted information*. Bayat (2014) found a significant relationship between critical thinking and academic writing success. Monippally and Pawar (2010) argue that academic writing allows the research process and findings to be presented as a means of communication. It is necessary to apply this communication tool in accordance with its purpose. However, a close examination of the scientific studies carried out in Turkey reveal some serious errors in this sense.

Aydin and Baysan (2018) examined graduate students' metaphorical perceptions of academic writing and found 95 metaphors, which they classified into 9 categories. They reported that more than half of these metaphors fell under three categories as "a long and challenging process" (f:23) "a process of producing / discovering new things" (f: 22) and "an action that requires composition / analysis / synthesis / interpretation skill" (f: 17). The rest of the metaphors were grouped under 6 categories as "an action that requires specialist / expert support" (f: 8), "a multi-threaded action" (f: 7), "an action requires care in language and expression" (f: 5), "an unpleasant action" (f: 5), "an action that gives joy" (f: 4) and the "other" (f: 4).

Aydin (2015), examined the effects of reflective teaching practices on academic writing skills and found that teachers had the highest success in general characteristics (form, punctuation, language and style, flow, length, etc.), bibliography and abstract dimensions, which are followed by method, results and suggestions, findings and comments respectively, while the lowest achievement was identified for the introduction section.

Aktaş and Uzuner-Yurt (2015) found that most of the article abstracts do not contain any information other than the purpose and results. Sevim and Özdemir-Erem (2012) similarly indicate that the thesis abstracts are inadequate except for their aims section. İşeri and Sen (2017) found that of all the 64 academic studies they examined in their research, 2 of them lacked all the functional steps in the introduction of part (subject and purpose of the research, theoretical framework, methodology, metatextual guideline), while 61 followed these functional steps partially. In his analysis of theses, Karadağ (2009, p. 219) found that the most common errors were writing the purpose part too long the presence of unnecessary terms, inability to express the purpose clearly, expressing the purpose and the problem statement separately, incompatibility of these separately mentioned purpose and problem statement, the inconsistence of the purpose with its sub-purposes, and explaining the significance of the study under the subheading of purposes. Sahin, Calp, Bulut and Kuşdemir (2013) point out that postgraduate students experience difficulties especially in writing the problem statement, significance, conclusion and suggestions sections.

In their analysis of the methodology sections of theses, Kan and Uzun (2016) found that they *give information about the research design*, *describe the universe and sample / study group*, *describe data collection processes* and *data analysis* as usual, but the *data collection tools* and the *structure of the department* are described as optional textual elements. In addition, in the method sections of the related theses, a linear presentation is not preferred and no prevalent sequence could be identified. Evrekli, İnel, Deniş and Balım (2011) state that theses display errors in particular as to the significance of research, design, universe-sample selection, reliability of measurement tools, statistical methods and data analysis techniques. Karadağ (2009) identified five types of errors in the "findings" section of

doctoral theses, which are inadequacies in statistical description, analytical interpretation errors, table heading errors, tabulation errors, and describing the demographic characteristics of the sample as findings.

Based on the results of this research, the following suggestions can be made:

- When the errors that academics most frequently report on and the most common errors that they identify as referees are correlated, the methods, formal features, language and style, discussion, ethics and literature review emerge as the most salient features. Therefore, practical training on these features can be delivered.

- By determining on a journal or index a multi-dimensional evaluation of academic studies can be performed by different academics for any given field in Turkey and some common viewpoints / standards can be created for the academic texts in that specific field.

- Acquisition of academic writing skills depends on the practices to be applied continuously with scholar candidates during their postgraduate studies. It is clear that the scientific research methods course alone is not enough to equip them with these skills. Therefore, it would be highly advisable for graduate programs to include some compulsory courses that focus specifically on academic language and style.

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Miscellany

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